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ORIGINAL LECTURES.

CLINICAL LECTURE ON STUPOROUS MELANCHOLIA, AND ON MYELITIS COMPLICATED WITH HYSTERIA.

Delivered at the Philadelphia Hospital

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Reported by WILLIAM H. MORRISON, M.D.

STUPOROUS MELANCHOLIA.

GENTLEMEN,—This patient presents a rather curious form of mental trouble. He was for some time an inmate of the insane department, but has recently been removed to the wards for nervous diseases. The following history has been obtained. J. M., aged 25 years, born in Philadelphia, single, type-finisher by occupation. Ten years ago he had an attack of lead-colic, and continued sick four weeks. He had marked wrist-drop. He has been a moderate drinker. The first symptoms of insanity appeared five years ago. He suspected his sister of trying to poison him. He heard voices round about him, and persisted in saying that the men where he worked were endeavoring to have him discharged. He was also afraid of being injured, and thought that persons were pursuing his friends. This condition lasted for about six weeks, and was followed by a state of stupor. For a few days before the appearance of the stupor he became very childish in his actions. The condition of stupor was at times replaced by a period of excitation. During his stay in the insane department, a period of two years, he continued quiet and more or less stupid.

Since he has been in the ward he has exhibited this simple, uninterested condition. He sits all day long as he is now, with his head bowed down, never saying anything, not answering when spoken to, and not moving unless moved by others. He takes food as it is put into his mouth. He pays little or no attention to his bowels and bladder.

The study of such cases is important, because you may at any time be presented with a case of this kind for diag-

nosis. Just as the diagnosis of insensibility is of the utmost importance outside of the practice of psychiatry, so in cases of insanity it is often of great importance to diagnosticate the cause and nature of stupor or mutism. A patient may be in a condition similar to that of the man before you, from one of several conditions.

It may result from hysteria. If this patient were a woman, one would be apt to suspect something of this kind. This is not a case of that sort. Not simply because the patient is a man, for grave hysteria may exist in the male subject. If this patient were suffering from hysteria, you would not have the appearance which is here presented. Such a patient may sit in a chair, obstinately refusing to open the mouth, but at the same time he will not have the physiognomy, not the gait nor the stoop, nor the peculiar appearance, presented by this man. You would have also a history of associated hysterical manifestations.

In two forms of insanity, or perhaps two varieties of one form of insanity, a stuporous condition is the prominent feature. These are variously designated, according to the method of classification that is adopted. Some of the more recent authorities include these two forms under the head of stuporous insanity, describing a *melancholic* form and one dependent upon loss of mental power, or *dementia*. The old terms were *melancholia attonita* and *acute dementia*. This latter term is not a good one, because it can be applied to some other forms of insanity. The best terms are probably *stuporous melancholia* and *stuporous dementia*.

Supposing this man to be suffering from one or other of these affections, let us see if we can distinguish between melancholia with stupor and stuporous dementia. To the ordinary observer, the features of these two forms of mental trouble are identical. You have just what is here present. These patients are immobile to a large extent, and in some cases absolutely so. If they are stood up against a wall they will remain there until they drop from pure physical exhaustion. Then you have the expression, and the bowed appearance, but this you may also have in ordinary forms of trouble, as in secondary dementia; and you have this refusal to take food. In the diagnosis you are compelled to rely almost

exclusively upon the history of the case and the physiognomy.

In the present instance the history would point to some form of delusional melancholia and secondary stupor, rather than to stuporous dementia. Stuporous dementia comes on in a person in good health with no past history of mental trouble. The patient may, however, be exhausted, as in the case of one of my patients, a woman who had for weeks watched over a member of the family who was sick. She suddenly became speechless, refused to attend to herself in any way, sat in one corner, refused to take food, and was in much the condition of this man. It was utterly impossible to do anything in the way of talking and reasoning with her. She was taken in hand, supposing that it was a case where there had been true mental exhaustion. She was fed artificially (and this must be done in all these cases where the patients will not take food by the mouth); she was also given tonics; and in a few weeks she made a good recovery.

Sometimes it is necessary to wait until the patient comes out of the condition before making a positive diagnosis. In stuporous melancholia, when the patients recover, sometimes they will tell you, or you will learn in some way, that they have been all this time under the influence of some terrible delusion: they have been impressed with some terrible idea,—fearing that if they moved they would be stricken down, that a sword was hanging over their head,—afraid of the vengeance of the Almighty for something that they had done.

In a case of stuporous dementia, it is simply an overwhelming of the entire mental organization for the time being. I think that in this case we can exclude ordinary stuporous dementia.

This man has a history of delusional insanity with melancholia preceding the present condition of stupor. He got into a condition of violent mania, and then passed into this stuporous condition. I should say that this is either a case of secondary dementia subsequent to insanity of a delusional form, or a true case of stuporous melancholia. Possibly we can determine whether it is one or the other of these two. If it be secondary dementia the man will not get better, for this means that such degenerative changes have taken place that recovery cannot be hoped for. If it be a case of stuporous melancholia,

the patient may get better even after the condition has lasted for months or years.

I now will have the patient stand up, and you notice another symptom. In cases of melancholia, a cataleptoid condition will often be observed. In a disorder known as *katotonia* there is a mixture of catalepsy with true mental manifestations. Often in cases of melancholia you may see a tendency to waxy immobility and to a cataleptoid condition. You notice that the patient gets into a certain position which he keeps more or less permanently. While the arms cannot be moulded as in some cases, yet when placed in a certain position they tend to remain there. I believe this case belongs to the general class of melancholia with stupor.

Taking up the question of treatment, in the first place the patient is to be fed. There is no special line of treatment. It is largely an experimental matter, so far as therapeutics is concerned. It is largely a question of training and drawing him out by mental and moral measures and by impressing your own personality upon him. Medicines of a building character, such as quinine, arsenic, and strychnine, are indicated. Electricity may be employed for the improvement of his physical condition, and efforts made to rouse his attention to the fact that there is another world than that in which he is living. He should also be trained to make certain movements, such as holding the head in different positions.

I have now under treatment, outside of the hospital, a man who some years ago had melancholia with suicidal tendencies and with certain delusions. After the appearance of the melancholia he began to have attacks of mania, and he was placed in an insane hospital and kept there for some time. He finally settled down into a condition in which he neither spoke nor did anything except as he was forced. Then he began to keep his eyes closed; he sat or walked with both eyes shut, and responded to nothing that was said to him. Food was put into his mouth, and he had to be taken care of as a machine. He would attend to his excretions, but had to be compelled to do so. The practical point about this case is that this man was taken hold of, and in a few months was considerably improved by a process of training. He now keeps his eyes open during a large part of the day, and instead

of being fed he feeds himself. He can be persuaded into conversation, and will take exercise. The object has been to re-educate the brain and to call out what brain-power is left. A lady has been employed to come regularly to read to him and engage him in conversation. At first she took ordinary text-books, of a character that required very little mental strain. I do not know that he will entirely recover, but it is not impossible that he may be made a useful member of society. The patient before us is of a different type; he has had little education, so that this method is not entirely applicable to his case; but, so far as it can be done, some such plan should be carried out.

MYELITIS COMPLICATED WITH HYSTERIA.

We have here another case the diagnosis of which is obscure. The history is as follows. The patient, a young woman, has had the ordinary diseases of childhood. Seven years ago, while walking, she slipped, but did not fall. She immediately felt severe pain in the back and felt something like a band surrounding the thorax. She slowly got better, but the pain still continued, so that she was unable to stand, and could not ride in the street-cars. The pain was increased by wearing corsets. Two months ago, she first noticed that on putting the foot forward from her it would spring up. In a short time this became very marked.

The patellar reflex is much exaggerated. The legs feel cold and numb, and she is unable to move them. They sometimes draw up involuntarily, and at times with sufficient force to throw her out of bed.

I have not before examined the patient. I have learned that she has been up and down several times. With this last attack she has been in bed seven months.

It is very important to make out definitely whether this woman is suffering from organic or functional trouble. The mere fact that she has been in bed seven months means nothing. She could be on her back seven years and yet the trouble be merely functional. With the definite history of traumatism many would be inclined to say that the woman had a hemorrhage or an injury of the bone. If I read the history aright, that is not my opinion. She slipped in the yard of her house, but after the injury she was able to walk into the house. I have carefully examined the back, and

two of my colleagues have done the same, without finding any evidence of fracture. Movement and jarring of the spinal column reveal no evidence of inflammatory disease of the vertebræ, or of the periosteum or membranes. There is no tenderness on pressure. I would say that, so far as this examination goes, there is no evidence of disease of the bone.

The limbs have not wasted. She has control over the muscles, but, apparently, not so much over those of the right as over those of the left leg. Paralysis is not complete, but she has some paresis, which is most marked on the right side. The patellar reflex is, if anything, exaggerated. There is no ankle-clonus on the left side, while there is slight ankle-clonus on the right side. A hurried test with the battery shows that there are some groups of muscles which do not respond well.

She states that for three weeks she had no control over the bladder or bowels. The limbs at one time were much contracted.

I believe this to be a case in which there is a large hysterical element. Two things point to some organic trouble. One is the fact that farado-contractility is impaired. The other is that she apparently had some impairment of control over the bladder and rectum, which persisted for some length of time. Three classes of cases presenting hysterical or similar manifestations are met with in practice. One is purely and absolutely hysterical, coming on with a history of injury; another is pure organic disease. In the third class you may have some real lesion with also a certain amount of hysteria. The fact that this woman lost control over the sphincter muscles and has some impairment of electro-contractility (although we have not yet determined the reactions of degeneration) would indicate some myelitic trouble. Probably a portion only of the trouble is hysterical. You will recollect that at a previous lecture I showed you a woman who was absolutely paralyzed and had the reactions of degeneration, and who was in a much worse condition than this patient; yet she has since recovered. The symptoms which would show the existence of myelitis are the presence of the reactions of degeneration, impaired and particularly abolished patellar reflex, involvement of the bladder, and a sensation of a cord around the waist. If all these were pres-

ent, it would be absolute proof of the existence of myelitis. The difficulty in diagnosis comes in when you have but one or two of these symptoms. This patient has impaired electrical reaction, she has had bladder-trouble, but the patellar reflex is not impaired. This is quite common in hysterical cases. Whether or not there is a specific history, I do not know.

The treatment consists in keeping the patient at rest during the acute stage, the use of alternate hot and cold applications to the spine, the administration of ergot in considerable doses, and iodide and bromide of potassium. After a time, when only the symptoms of loss of power remain, electricity and movements are to be employed.

ORIGINAL COMMUNICATIONS.

RECENT WORK ON MEDICAL CHEMISTRY.

BY WILLIAM H. GRÉENE, M.D.

NORMAL ELIMINATION OF UREA.

FROM the results of analysis of his own urine during many days of uniform alimentation, Carl Genth concludes that the quantity of urea daily excreted is by no means constant, but fluctuates during a shorter or longer period between two extremes. The periods covered by the fluctuations are more or less uniform, extending over from four to eight days. The beginning of a period is characterized by a notable increase, and the quantity then gradually diminishes until the last day, when there is frequently a slight increase, followed on the succeeding day by the larger excretion marking the beginning of a new period. As an example, the daily excretions from the eighteenth to the twenty-second day of the experiment were 35.49, 36.36, 31.56, 30.25, 31.68 grammes; from the twenty-third to the twenty-seventh day the quantities were 40.24, 33.78, 30.73, 29.28, 29.92 grammes. The periods are more marked and extend over a longer time when the ingestion of water is unstinted; if the supply of water is limited, the periods become shorter and less characteristic. No such periodicity can be detected in the elimination of the other constituents of the urine.

If these results be trustworthy, as there is every reason to believe them, they illus-

trate well the uselessness of most of the clinical estimations of urea.

PHOSPHATES IN URINE.

A. Ott has published a series of analyses showing the relative quantities of acid and normal phosphates in the urine. The results showed that the mean ratio of phosphoric anhydride existing as normal phosphate to that existing as acid phosphate was, for the evening urine, 91 : 100; for the night urine, 56 : 100; and for the morning urine, 58 : 100. The ratio for the urine of twenty-four hours was 69 : 100. The urine was collected daily at 10 P.M., 8 A.M., and 2 P.M., and a meal was taken after each collection. Breakfast consisted of coffee and bread; dinner and supper, of meat and vegetables.

The urine holds in solution a larger proportion of phosphates than would be dissolved by similar quantities of pure water, and this fact is accounted for by the presence of other salts, particularly potassium sulphate and sodium chloride, which increase the coefficients of solubility of both acid and normal phosphates.

A METHOD FOR THE ESTIMATION OF CHLORINE IN URINE, MILK, AND SEROUS LIQUIDS.

Carl Arnold recommends for the estimation of chlorides in all animal liquids that ten cubic centimetres of the liquid be mixed with twenty or thirty drops of nitric acid of specific gravity 1.185, and then with two cubic centimetres of ammonium-iron alum and ten or fifteen drops of a ten-per-cent. solution of potassium permanganate. After the dark color which is developed has disappeared,—and its disappearance may be hastened by warming the mixture,—the solution may be at once titrated with a deci-normal silver-nitrate solution. Fresh fluids which contain no sulphur compounds may be treated without the addition of potassium permanganate. With very albuminous fluids, such as serum, it is better to dilute the liquid to one hundred cubic centimetres after the precipitation of the albumen by nitric acid, and the titration is made on a measured portion of the filtered liquid. The chlorides in milk may be determined without filtration.

A METHOD FOR THE ESTIMATION OF URIC ACID.

E. Ludwig estimates uric acid by treating one hundred cubic centimetres of urine

with a mixture of magnesium sulphate and ammonia, and a solution of ammonio-silver nitrate; the precipitate contains magnesium-silver urate and magnesium-ammonium phosphate. It is collected and digested with a solution of potassium sulphide; after standing, the mixture is filtered, and the filtrate, which contains potassium urate, is concentrated by evaporation. The uric acid is precipitated by hydrochloric acid, collected on a glass-wool filter, washed with carbon disulphide to remove adhering sulphur, dried, and weighed. If the urine contain albumen, it must be boiled with a solution of common salt and acetic acid, and the filtered liquid is treated as before indicated.

THE DETECTION OF ACETONE IN PATHOLOGICAL LIQUIDS.

The best method for the separation of acetone from urine or other liquid is by distillation from the whole quantity of liquid; but this process requires a somewhat troublesome manipulation, and frequently the quantity of liquid is so small that the distillation is difficult. After showing that the ordinary tests (depending on the production of a rose-red color with sulphuric acid, and a brown with ferric chloride) are untrustworthy, P. Chautard recommends the use of rosaniline salts, which are changed from red to violet by aldehydes and acids; the violet color is stable in presence of sulphurous acid, which rapidly bleaches rosaniline salts. The reaction is most distinct when a solution of fuchsin decolorized by sulphurous acid is employed.

The reagent is made by dissolving twenty-five centigrammes of fuchsin in half a litre of water, and passing sulphurous acid gas through the solution until the red color is replaced by a pale yellow, which is not changed by an excess of sulphurous acid. The liquid so obtained may be preserved indefinitely in well-stoppered bottles.

For the detection of acetone in urine, a few drops—at most one cubic centimetre—of the reagent are added to fifteen or twenty cubic centimetres of the urine. A violet color is produced if acetone be present. The intensity of the color is proportional to the concentration of the solution, and not to the quantity of acetone present. It does not always appear immediately, and in dilute solutions may be-

come apparent only after four or five minutes. One-tenth of one per cent. of acetone must be present in order to produce a decided color. If the proportion of acetone be very small, or if the yellow color of the urine be sufficiently intense to mask a feeble violet, two hundred cubic centimetres of the urine should be distilled slowly until fifteen cubic centimetres have been collected. On this portion the test is made, and if no result is obtained the urine must contain less than one-hundredth per cent. of acetone, a quantity not isolable by fractional distillation.

Chautard also states that the fuchsin reagent will always detect traces of aldehyde, acetone, or similar reducing compounds in commercial alcohol; pure ethyl-alcohol produces no violet color with rosaniline.

POISONOUS ALKALOIDS IN OLD FLOUR.

Balland has found that flour which has been kept for some time in sacks contains traces of alkaloids, and the older the flour the greater the quantity of the alkaloids. After extracting the flour with ether and evaporating the solution so obtained, the fatty residue is acid, and has an unpleasant penetrating odor and an acrid taste. Alkaloids may be detected in the aqueous extract of this residue by means of the usual reagents. Flour from twelve to eighteen months old contains appreciable quantities of alkaloids, and the extract proved fatal in several hours to sparrows to which it was administered, while extracts from fresh flour produced no such effects.

POST-MORTEM TRANSFUSION OF ARSENIC.

It has been shown that arsenic injected into the stomach after death can pass to the liver and neighboring viscera, but it has been doubted that the processes of transfusion could carry arsenic so injected to the brain, and in general it has been assumed that the hydrogen sulphide produced during decomposition converts arsenic into insoluble sulphide, thus preventing transfusion.

F. S. Sutton has made injections of three grains of arsenious oxide into the stomach and rectum of dogs that had been killed by chloroform twenty-four hours previously. After burial during a time varying from three to one hundred

and two days, arsenic could be detected in the liver, kidneys, and brain, and the longer the lapse of time the more arsenic was present in the brain. Scolosuboff's statement that arsenic is deposited in the brain only during life, and that the presence of arsenic in the brain is conclusive evidence that it was absorbed during life, is consequently untrustworthy.

DETECTION OF STRYCHNINE.

P. C. Plugge has published results of investigations on the separation and detection of strychnine. The general conclusions are: 1, that the most delicate reagent for strychninic or igasuric acid is sulphuric acid and ceroso-ceric oxide. (This is known as Sonnenschein's reaction, and results in the production of a blue color like that produced by strychnine with potassium dichromate and sulphuric acid, but the blue color of the cerium-reaction lasts for a day or longer and then changes to cherry-red.) The test may be depended on for as small a quantity as .01 milligramme. 2. The same reagent is the most delicate test for strychnine, and will reveal the presence of .005 milligramme. 3. Chloroform is the best medium for the separation of strychninic and igasuric acid from aqueous liquids. Igasuric acid is not altered during its passage through the organism, and strychnine is eliminated either entirely or in great part without alteration; but the elimination of strychnine is exceedingly slow. Eight days after the ingestion of strychnine traces of the alkaloid may still be detected in the urine. This slow elimination of strychnine is of importance from a medical stand-point, for it indicates that a cumulative poisonous effect might result from the repeated administration of small doses.

THE PHYSIOLOGICAL ACTION OF NEURINE.

A. Moriggia has studied the physiological action of commercial neurine, which is a mixture of trimethylhydroxethylene-ammonium hydrate, trimethylvinylammonium, and a little trimethylamine. The poisonous properties are owing principally to the vinyl compound, which is between fifteen and seventeen times as poisonous as that of hydroxethylene, and the author concludes that the toxicological phenomena are of the same order for both compounds, and are similar, especially in the

results on frogs, but less marked than those of curare and analogous poisons.

V. Cervello has independently arrived at essentially the same conclusions, excepting that he regards the effects of neurine as combining the action of curare and that of muscarin. This view is supported by the fact that the toxic effects simulating those of muscarine are overcome by atropine, which, even if the dose of neurine be fatal, arrests the glandular hypersecretion and accelerates the retarded heart, but has no power over the curare-like effects.

SWEDISH METHOD OF TESTING FOR ARSENIC.

A. Atterberg publishes the following method for the detection of small quantities of arsenic. A small portion of the substance is treated in a test-tube with very dilute hydrochloric acid, a fragment of zinc, and a little ferrous sulphate. Above the mixture is placed a plug of cotton-wool wet with solution of lead acetate, and in the mouth of the tube two strips of paper are suspended, one moistened with solution of lead acetate, the other with solution of silver nitrate. If the silver-nitrate paper remains unchanged at the end of twelve hours, the substance is said to be free from arsenic; if, on the contrary, this paper becomes brown or black from the reduction of silver by hydrogen arsenide, some of the substance is distilled with hydrochloric acid and ferrous sulphate, and in a portion of the distillate the arsenic is precipitated as sulphide by hydrogen sulphide.

A TEST FOR ADULTERATION OF BUTTER.

A. Wagner proposes for the detection of other fats in butter a method which depends on the fact that pure butter forms an emulsion much more readily than do other fats. About six decigrammes of the butter to be examined are introduced into a flask with twelve cubic centimetres of water and two drops of a two-per-cent. solution of sodium hydrate, and the mixture is well shaken. It is then heated in a water-bath to 37° C. and poured into a separating funnel, the flask being washed out with water at the same temperature and the washings transferred to the funnel. From time to time the liquid is allowed to run out, being replaced by water at 37° until the water below the melted butter is quite clear. The water is then carefully

run out, and, if the butter be pure, the walls of the funnel, after cooling, remain covered with a finely-divided, cheese-like mass; but if foreign fats have been present, oily drops will be apparent, and indeed will be seen during the whole of the operation.

NATURAL LABOR AND ITS MANAGEMENT.

*Read before the Philadelphia County Medical Society,
January 27, 1886.*

BY WILLIAM T. TAYLOR, M.D.

IN September, 1882, I read before this Society a paper on "Abnormal Labor and its Management." I propose now to speak of normal labor and its management,—of the mode which nature adopts in bringing forth the human foetus, and of the help which at such a time a skilful accoucheur may render.

Natural labor is the vital process by which the foetus, having reached the full period of utero-gestation, is expelled from its mother's womb,—the child's head and the pelvic cavity being correctly proportioned to each other,—to carry on an independent existence in another sphere. Its duration is usually not over twenty-four hours. It is customary to divide labor into three periods or stages: 1st, the dilatation of the os uteri and rupture of the membranes; 2d, the expulsion of the child; 3d, the delivery of the placenta.

Proceeding first to consider the course of natural parturition, we observe that from a few days to a fortnight before labor there is generally a subsidence of the mother's abdomen, with a tilting forward of the gravid uterus, owing to a relaxed condition of the abdominal walls, which produces more pressure on the bladder and causes frequent micturition, and in some cases an irritable state of the bowels, with griping pains. The breathing is less oppressed, and the patient is more disposed to exertion. The labia may become swollen and softened, and a mucous discharge flows from the vagina. This may be observed for some time before labor, but when it is streaked with blood it is popularly called "a show," and indicates that the os is beginning to dilate and that labor has begun. The patient now complains of pains in the back or abdomen, which occur at long intervals, and which increase in severity as the intervals shorten. The os, which at

first was quite high up in the pelvis, gradually sinks lower, and the opening becomes circular and enlarges so that the membranes within can be felt to become tense with each pain. The os dilates more slowly and more painfully in the first labor than in subsequent ones. There is often much sickness of stomach and vomiting, which is considered a sign of an easy labor, for it assists to relax the os uteri. These preliminary or "grinding pains" are very worrying to the woman, who is afraid that she will die, and she often so expresses herself, being filled with gloomy forebodings, particularly in her first labor. This despondency, however, disappears as the labor progresses, for when the os has opened to the size of a half-dollar it will expand more rapidly, and soon the "forcing or expulsive pains" will begin, when she will become calmer, for she feels that her "bearing down" efforts will assist to expel the child. During these pains the membranes will protrude through the os and become tense, receding as the pain subsides. This advance and retreat goes on for some time, until finally with a severe pain the membranes burst and the liquor amnii flows away. Sometimes the membranes do not break until they have dilated the vagina and appeared at the vulva, in which case the labor will soon terminate; when, however, they are very thin and break easily, the progress of the labor will be slow and tedious, constituting what is called a "dry labor." It is best not to rupture them if it can be avoided, for their dilating power is very useful.

With the evacuation of the waters there is generally a cessation of pain for a longer interval than before; but as the second stage now begins, and the head comes down to bear directly against the os, the uterus increases its action, whilst the patient will seize hold of the hands of an attendant and place her feet against the bed-post, or any immovable object, in order to fix the body firmly, so as to bring the abdominal muscles and those of the extremities to her assistance, and will bear down and strain with all her might to expel the child. The veins of her neck will swell, the pulse increase in frequency, and she will be thrown into a profuse perspiration. Now the pains become stronger and more decided, and during the intervals she often falls into a sleep, to regain her

strength for renewed efforts on awaking. Her outcry is different from what it was in the first stage, and an experienced accoucheur can generally detect this stage of labor by the voice of the patient, which has been called the "parturient grunt."

The head slowly advances with each pain, and then recedes slightly during the interval, but still making progress onward,—being somewhat compressed and moulded, if large,—until it sinks gradually into the cavity and at last reaches the floor of the pelvis, when the face will turn into the hollow of the sacrum to bring the vertex under the arch of the pubis.

The pressure against the sacral and sciatic nerves will cause severe pains, extending down the extremities and cramping the calves of the legs and soles of the feet, which can be relieved somewhat by friction. The pressure against the rectum will evacuate the bowels if they are not already empty, and the patient will often insist on getting up to have a stool. Now there is a bulging of the perineum, which subsides as the pain goes off, to be repeated again and again, until the head, by gradually and slowly stretching the parts, at last appears at the vulva, when, with a strong effort and a scream from the woman, it escapes from the maternal parts.

The relief to the patient is so great at this time that she often expresses herself as coming from agony to bliss. A rest for a time ensues, and the uterus resumes its labor to expel the body, and when this is accomplished the second stage is ended.

Within a few minutes or at most a half-hour the uterus will again begin to contract, so as to detach the placenta with its membranes, which will soon be expelled, and this will end the third stage of natural labor.

I have now described the process of labor when nature does all the work: therefore the question may arise, What is the accoucheur to do during all this time? An answer to this question brings me to the *management* of natural or normal labor.

On being engaged to attend a case of labor you should take the earliest opportunity to visit your patient, so as to see her and ascertain her physical condition, her temperament, her habits and modes of life, and also to give her an opportunity of seeing you, so that she may be less em-

barrassed when labor begins. Then inquire if she has any headache, or any trouble with her bowels or kidneys, or any abdominal pains. If she has no complaint, and is a primipara, advise her to anoint the abdomen two or three times a week with sweet oil, lard, or cosmoline, so as to soften the skin and thus alleviate the pain which often arises from the stretching of the abdominal walls. Tell her to keep the bowels regulated by fruit or laxatives, and to take gentle exercise every day, but not to tire herself by long walks, and to attend to her household duties if they are light. Give her encouragement as to the "coming event," and advise her to summon you whenever she may require your aid.

Should she have headache, give her ten grains of the bromide of potash, with a scruple of the bitartrate of potash, every four hours in a wineglassful of water. If this does not relieve, or if there should be a numbness in the hands, arms, or limbs, the urine must be examined for albumen. When this is found, ten grains of the benzoate of calcium given every two hours will often render the urine normal. But if the headache is not relieved by these remedies, the application of six or eight Swedish leeches to the back of the neck will generally accomplish a cure.

It is advisable in primiparæ to use a lotion of alum and diluted alcohol with glycerin to the nipples, so as to fit them for duty when required.

To stimulate the secretion of milk, a liniment of castor oil and the oil of origanum is highly recommended by Dr. Henry H. Smith as an excellent galactagogue; and if the mammary glands are bathed with it daily during the latter part of pregnancy, they will be well supplied with milk when the child is born. I have used it successfully in several cases.

When summoned to a case of labor, go as soon as possible, for it is only after seeing your patient that you will know if you are needed. Inquire how long she has had pains, how frequently the pains occur, and if there has been any show; whether the bowels have been moved, and if she has urinated. Having ascertained these facts, observe the frequency and character of the pains, and their location. If they are slight, and occur at long intervals, you can leave her for a while; but if the intervals are short, you should have her

placed on her left side at the edge of the bed, and, having washed your hands and anointed the forefinger of the right hand, make a vaginal examination, so as to discover the size of the pelvic cavity, the position of the os uteri, and its state of dilatation,—whether soft and patulous or hard and wire-edged. Should it be in the former condition, you may know that it will dilate easily and quickly; but if in the latter state, you must expect a tedious labor. Note also the condition, shape, and size of the abdominal walls, for at this time, by palpation and auscultation, you may be able to discover the position of the child in the womb,—whether it presents by the vertex or the breech,—and, if the abdominal walls are thin, you may possibly know if the occiput is anterior or posterior.

Having satisfied yourself that labor is commencing, you should encourage her by saying that her pains are natural and that she is doing well; that she can walk about her room, or lie down, as she pleases. Then go away for a while, telling her that you will return in good time; for this will assure her that she is not seriously ill, and she will feel less anxiety than if you were to remain constantly with her.

Should there be no change in the os in two or three hours, and the pains severe during that time, I usually give twenty grains of the hydrate of chloral with one-eighth grain of sulphate of morphia, which will allay them and may put her to sleep, but will not stop the progress of labor, for the os will soften and dilate more rapidly under this treatment.

When the os attains the size of a half-dollar, you must remain, for then it may dilate very suddenly and your help might be needed at any time. Now the presentation can be ascertained, which, as the rule, will be of the occiput, either anterior or posterior. If the former, let it alone; for it will descend readily into the pelvic cavity if the relations between the pelvis and the foetal head are proportional. But if it present posteriorly, my plan has usually been, when the os is sufficiently dilated, to change the position to an occiput front, and thus shorten the misery and pains of my patient.

The patient may desire to have her back supported, and this can be permitted by allowing some one to place their hands across the lumbar region and press gently

during the continuance of the pain; or by the nurse sitting on the bed and putting the soles of her feet (protected by stockings) against the back, by which much relief may be afforded to the sufferer.

If the labor be slow, a change of position is sometimes beneficial, and some women will get on their hands and knees or kneel beside the bed on the floor, assuring you that they can help themselves better by such a proceeding.

During this stage the membranes may rupture and the liquor amnii be evacuated suddenly. To guard from being deluged by this overflow, it is prudent to protect your arm and hand with a napkin.

The womb will now contract more forcibly to expel its contents, and the head advances along the pelvic canal by a somewhat spiral movement until it reaches the perineum, which it gradually distends as it moves onward to the outlet. My plan has been to support gently this distended and bulging perineum with the left hand (protected by a napkin), for its thinning walls might yield and be torn by a sudden impulse of the head when propelled by a strong pain. Although some object to this proceeding as useless, yet I have never seen any injury result from such action, and it certainly does no harm. This gentle pressure should be made on the posterior part of the perineum and coccyx, allowing the anterior part to yield.

When the head is born, see if the cord is around the neck, and if so it should be loosened and slipped over the head or shoulders, whichever can most easily be done, so as to prevent the child from being strangled. Another pain will usually bring the body. If, however, it does not come, pressure should be made on the uterus, whilst the accoucheur places one or two of his fingers in the axilla, and, grasping the head with the other hand, makes traction to deliver the body. Immediately, or in a few minutes, the child will cry out, and respiration is established. If, however, this does not occur, a smart slap on its buttocks or a dash of cold water on the breast (followed by friction), or rolling it according to Marshall Hall's method, will generally start up its vocal organs, to the great joy of the mother,—and, I may say, to the satisfaction of the doctor.

When the pulsation of the umbilical cord has somewhat diminished, a ligature

made of several strands of thread is applied to it about two inches from the navel, and the child may be separated from its mother and given to the nurse. Some apply a second ligature before cutting the cord, to prevent bleeding from the placenta; but this is objectionable, for a slight hemorrhage from the maternal end of the cord will empty the placental veins and thus diminish its size and promote its expulsion.

The expulsion or removal of the after-birth constitutes the third stage of labor, which may occur very quickly or be retained for twenty minutes or a half-hour, when pressure should be made on the abdominal walls, or the squeezing process called the "Crédé plan" adopted, which consists in grasping the womb externally with the hand and forcing out its contents; or traction should be made on the cord whilst the hand or the fingers are inserted through the relaxed os uteri, and, having seized the placenta, gradually detach it, twisting it upon itself so as to separate all the membranes from the uterine cavity. This appears to be the proper proceeding; for the placenta, having accomplished its purpose, is of no further use, and, being a foreign body, should be removed as soon as possible, for the safety of the mother. To stimulate the uterus to contract, a teaspoonful of the fluid extract of ergot is sometimes given immediately after the child is born.

If there be a laceration of the perineum requiring your attention, it should be closed at once by two or three stitches; but if it be a very slight tear, let it alone, for it will heal itself. Any clots remaining in the vagina should be removed; and when the uterus is reduced to a firm and hard globe, a binder can be applied to brace up the relaxed and distended abdomen. The bandage is objected to by many accoucheurs; but if it be kept well down below the hips and across the pubic region, it will afford good support to the relaxed parts; besides, the mothers usually request its application in order to prevent a "pendulous belly."

The objectors to a binder on a parturient woman would certainly apply one to an ascitic abdomen when it had been tapped: therefore I can see no valid reason for the objection in this case.

The patient is then placed more comfortably in the bed, the soiled things are

removed, a dry napkin is applied to the external parts, and the room is darkened, so that she may be allowed to rest for several hours. The accoucheur, however, should remain for some time, to watch the pulse and ascertain the amount of the discharge; and, before he leaves, he should give some general instructions concerning the mother and child.

He should repeat his visit in from six to eight hours, to ascertain her condition.

But this will lead me to another branch of the subject, which is not within the scope of this paper, and therefore I will close by thanking you for your attention to this review of our first lessons in midwifery.

1324 NORTH FIFTEENTH STREET.

A NOTE ON THE RESORPTION OF TISSUES.

BY W. XAVIER SUDDUTH, M.D., D.D.S.,

Director of the Physiological and Pathological Laboratory of the Medico-Chirurgical College.

NATURE is conservative, retaining only such tissues in the body as are productive of benefit to the economy. The process of resorption is constantly going on; cells and tissues, having performed their life-work, are continually being broken down and removed by and through the lymphatic system. It is not to these conditions, however, that I now desire to direct attention, but to the removal of the products of inflammation, blood-clots, ligatures, and foreign bodies of every nature that become embedded in the tissues of the body. The removal of such substances is dependent upon the action of specialized cells, called resorptive or *giant cells*, and the process is physiological. The foreign body acts as a stimulant to cellular activity. The foreign substances act as local disturbers of the equilibrium of the circulation: there is called to the point of irritation greater supply of blood than is normal; this results in partial stagnation, and, as a further result, exudation of white blood-cells occurs, the extent of the exudation being dependent upon the extent of the local irritation.

In the case of small particles, such as coal and stone, etc., the white blood-cells take them up by flowing around them and carrying them to a neighboring gland, where they are deposited.

Insoluble substances, if not in a high

degree irritant to the surrounding tissues, may be encapsuled and held in the tissues. But, nevertheless, nature makes an effort to remove them. The migrated cells which form the hyperplastic granulation-tissue of circumlocution contain many multinucleated cells, the product of rapid cell-multiplication. Fleming has established beyond dispute the fact that cell-division is dependent upon nucleus-division. In some instances, however, the nucleus divides, and a subsequent division of the cell does not follow. In this case, multinuclear or *giant cells* are formed. We do not know positively why cellular activity results; but it is probable that the cells are stimulated to an increased assimilation of cell-pabulum. But an increased supply of nutrition does not always produce giant-cells. Some authors hold that giant-cells, or *osteoclasts*, found in connection with resorption of bone, are produced from the liberated bone-cells; but the fact that giant-cells appear in connection with the resorption of dead bone and other hard tissues which do not contain living bone-cells seems to establish for them an independent identity. Ziegler, when speaking of the erosion of bone, uses the terms *osteoclasts*, giant-cells, and resorption-cells as synonymous, and asserts that they arise from multiplication of exuded white blood-cells.

The presence of giant- or resorption-cells is general where tissues are to be resorbed, whether it be in the normal development of bone or in the resorption of the roots of temporary teeth. Here they act as nature's physiological agents in the removal of tissues which have served their life-purpose. In fact, all the processes of nature are physiological; her agents—cells—are developed to perform well-known physiological actions, and when a pathological result is produced it has its origin in some outside influence. Cells have not the power to produce pathological results unless stimulated by some agent which lies outside of physiological bounds, and when so stimulated they act through their own peculiar channels. Many physiological processes present pathological appearances; but when we study their deeper expressions we find that they are purely physiological. I look upon giant-cells as nature's physiological agents, by whose aid she removes tissues which have performed their life-office or which by their presence are hurtful to the animal economy.

The resorption of tissues through the agency of giant-cells is therefore to be regarded as a purely physiological process. The pathological phase is found, not in the removal of the tissue, but in the irritant which preceded the resorptive process and made it necessary. Thus far, too much stress has been laid upon the visible expression of nature's effort to remove the irritant, and too little on the character of the irritant itself. Pathological results may attain to the resorption process through the action of giant-cells by reason of the juxtaposition of healthy tissue. Nature, in her effort to remove the irritant, acts upon the surrounding tissue. This probably occurs more or less in all resorptive processes; it is, however, incidental.

Giant-cells are found in disease where great cellular activity exists,—as, for example, in miliary tuberculosis, syphilis, myeloid sarcoma, and hyperplastic granulation-tissue; they are also found in connection with the resorption of bone in normal development, the roots of temporary teeth, and other bodies that nature desires to remove. They are developed in all the above-named cases, unless the exuded cells are destroyed and a purulent condition produced.

In caries of bone due to extension of constitutional diseases, such as tuberculosis and syphilis, it seems to me that it is perfectly rational, from the knowledge we now possess of the specific vices of these diseases, to say that the cause of irritation lies in the micro-organisms which are found in connection with them. The case is not altogether clear for syphilis, but no doubt exists regarding the direct connection between the tubercle-bacilli and tuberculosis. Nature seeks, by the destruction of local territories, to limit the action of the irritant; and when *caries* accompanies this process, it is often the indirect and not the direct point of attack.

In myeloid sarcoma, though giant-cells are present, we have as yet been unable to demonstrate any local irritant. That such a condition does exist in connection with the disease I have no doubt. The action of the giant-cells is the same in all cases: they secrete a fluid which has the power of digesting the tissues in their immediate neighborhood. In claiming this attribute for them we do not go beyond the physiological action of cells.

The process of digestion is well known

to every student of physiology. In the stomach, glands secrete certain fluids by whose action that which we call food is so changed that it can be taken into the blood and assimilated by different parts of the body. A failure on the part of these glands to produce their normal fluid will cause what we term indigestion. Ordinary food-stuffs, unless prepared and dissolved by the fluid secreted by the glands of which we have been speaking, cannot be assimilated. We find that what is true of the digestion of food is also true of the digestion of tissue. In order that a tissue may be removed, it must first be digested by the cell-fluid, after which it can be taken up by the lymphatic system. It is true that very small particles, by reason of their minute subdivision, do enter the lymph-channels; but they are not assimilated into the general system, they are deposited in the first gland into which the lymphatic empties. Instances of this kind are found in cases of respired particles of coal- and stone-dust, and as a consequence we have the pathological condition known as the "coal-miners'" and "stone-hewers'" lung.

As I have already said, in order that any tissue may be assimilated it must first be digested. In the cases above mentioned the soluble ferment is secreted by the giant-cells at the point of irritation.

The juxtaposition of the secreting cells and the tissue to be resorbed is a matter of essential import. The ferment or fluid in question is not an exuded fluid of the blood; it is as truly a specialized fluid as are the secretions of the peptic glands of the stomach. The nature of the body to be resorbed has no more influence in the production of the secretions than have the various food-stuffs which are taken into the stomach over the secretions of the stomachic glands. Resorbed and resorber must be in actual contact, as is seen in every instance where tissues are to be removed.

Such are the facts, briefly stated, from which I have drawn the conclusion that the resorption of bone in normal development, of the roots of temporary teeth, of provisional cartilage, of sponges in sponge-grafting, of catgut ligatures, of blood-clots, and of all foreign bodies that are capable of digestion is a physiological process, and is accomplished by and through the agency of resorptive or giant cells.

IMPROVED SEWERAGE AND SEWAGE-UTILIZATION AT ATLANTIC CITY.

BY BOARDMAN REED, M.D.,

Late Physician to the Mercer Memorial House for Invalid Women, Atlantic City, New Jersey.

A NUMBER of medical friends having requested the writer to give an account of the improved system of sewerage now in operation in Atlantic City, he takes the present opportunity of doing so.

It is clearly not only the right, but the duty, of physicians who send invalids to the sea-shore or the mountains to inquire closely into the sanitary condition of the place selected. When they prescribe sea-air or mountain-air as a supplement or succedaneum to drug-treatment, they may properly insist that it be not mixed with sewage-emanations or marsh-miasms.

In the mountains perfect sewerage is usually not difficult to achieve, though even there it is often sadly neglected. On the New Jersey beaches it has been a most difficult problem. Very few, if any, of them present topographical conditions including sufficient grades to insure efficient natural drainage. But, even supposing this defect to be overcome, there is at most of them no convenient river into which to discharge sewage. To discharge it directly into the ocean in front of the bathing-grounds, as is done at some of these places, is manifestly highly objectionable. To let it empty into a sluggish creek or open ditch running through the town, as is the method at other sea-side resorts, is even more dangerous.

In preference to such inefficient and really perilous methods of so-called sewerage, the sanitary authorities of Atlantic City long retained the old vault-system, surrounding it, however, with every possible safeguard, such as ventilating-chimneys at the hotels and frequent removal of the offal by odorless excavators.

However, with the continued growth of the place and the introduction of extensive water-works, underground sewerage became a necessity. Years previously numerous conduits had been provided for carrying off the surface-water, while the raising of the level of the streets and adjacent properties, and compulsory filling of low lots, had further improved the surface-drainage.

The one thing needful remaining was to

make better provision for disposing of laundry-water, kitchen-slops, and human excreta. After studying various plans and sending committees even as far as Pullman, Illinois, to investigate the practical value of pumping-stations and sewage-utilization, the authorities adopted for Atlantic City what is known as the "West" system, and contracted with the Improved Sewerage and Sewage-Utilization Company of New York to put it in operation.

Briefly stated, this system comprises (1) a pumping-station and reservoir or well with deep-laid sewers converging to it; (2) filter-beds situated at a considerable distance from the well, out on the salt-meadows.

The reservoir is placed on the edge of the meadows, next that side of the town which is farthest removed from the ocean and the hotels, being half a mile to a mile distant from the latter. It is a walled pit, cemented on both the inside and outside, thirty feet in diameter and twenty feet deep. Connected with it is a ventilating-shaft seventy-five feet high. The main sewer, which empties into the bottom of this well, is a cylindrical iron pipe twenty inches in diameter. Connecting with this is a system of sub-mains and laterals of heavy glazed terra-cotta pipe, the best product of the Trenton works. These are respectively twenty, fifteen, and ten inches in diameter, according to location. All the larger ones are laid below the level of the ground-water, upon a substantial wooden support or bed.

By thus excavating to an extraordinary depth and conducting the main to the bottom of a well twenty feet below the ordinary level of the town, the necessary grade was obtained to render the sewers self-cleansing, and the fact that they are so has been demonstrated by inspection of them at various points. All such inspections have revealed a rapid current and an entire absence of deposit.

The system has been in successful operation since the 20th of July, 1885, and most of the hotels and boarding-houses are now connected with it. Right here a word of caution must be given to physicians who send patients to Atlantic City. They should warn them against taking up their residence in houses not yet so connected. All houses will ultimately be obliged to use the sewers; but, as is the usual experience in such cases, a very few over-conservative proprietors of hotels, as well as a considerable number of owners

of cottages rented to summer visitors, are putting off to the last moment this to them unwelcome innovation. Without such a warning, visitors might install themselves in unsewered houses, and thus, though surrounded by well-drained premises, be only a little better off than the entire population of the numerous fashionable sea-side resorts where no attempts at underground sewerage have yet been made.

Just as there were numerous croakers prompt to assert that sewers could not be laid at such a depth in a sandy soil, far below the water's level, so there are still sceptics who say "the thing will not work." The only answer to these is that it is working, and is entirely satisfactory. The sewage is conveyed swiftly by gravity to the well or reservoir, and is forced thence, by two powerful steam-pumps having a joint capacity of upward of sixteen hundred gallons per minute, through an iron pipe to the filter-beds. The liquid after emerging from these is only slightly discolored, and by extra care and frequent changing of the filtering-material it has been found practicable to render it clear and pure enough even to drink. This may seem incredible, but Parkes, in his "Practical Hygiene," quotes Mr. Dyke as claiming for a similar system of sewage-utilization with filtration at Merthyr-Tydvil, that the "effluent water was stated to be pure enough to be used for drink."*

There is absolutely no odor at the well, not even when one stands upon the floor inside with the trap-door open. The reason is that the sewage empties there in a fresh condition, before having had time to decompose. Then, even if gases had formed, the high ventilating-shaft adjoining the well and connected with the fire of the engine-room causes a powerful draught in that direction. A slight odor is detectable at the filter-beds; but this never reaches any inhabited part of the city proper. If there ever should be sufficient smell created by the process to reach even that portion of the town nearest to it, a prompt and thoroughly effectual remedy, which could be enforced at any time, would be to compel the company to move the filter-beds half a mile or even a mile farther away.

The only criticism of this plan which seems to possess any plausibility concerns

* "A Manual of Practical Hygiene." By Edmund A. Parkes, M.D., F.R.S. Sixth Edition. Vol. ii. p. 36. New York, W. Wood & Co.

the durability of the material of which most of the pipes in Atlantic City are constructed. This is the best heavy glazed terra-cotta, similar to that used by Colonel Waring and other sanitary engineers in laying small-pipe sewers. It is possible that such pipe may be ultimately found not to be sufficiently durable under the peculiar conditions here existing, and that some stronger material may have to be substituted. This is a question which can be settled only by a longer experience, but one which does not affect either the principle or practicability of the system.

The problem of effectively and safely draining cities situated on flat plains, with no convenient water-course into which sewage could be discharged, had been previously solved at various places in Europe by the use of pumping-stations and some form of sewage-utilization. The model city of Pullman, Illinois, a suburb of Chicago, was the first in this country to attempt such a plan, and it is entirely satisfied with the result. Atlantic City had even greater difficulties to overcome, on account of the peculiar character of the underlying ground. But it has been demonstrated that sewers of any desired material can be laid even there at any required depth. That point being established, and the sewers once properly laid, the result with a pumping-station and filtration of the sewage can no longer be open to doubt.

THE MORTALITY FROM RABIES IN THE LAST TWENTY-FIVE YEARS IN PHILADELPHIA.

BY JOHN G. LEE, M.D.

DURING the past few months the profession and the public have had such a surfeit of the subject of hydrophobia that any further remarks may fail to excite that interest which all facts pertaining to this dread disease undoubtedly deserve.

Nevertheless, the following figures, obtained by me from the records of our local Health-Office (thanks to the courtesy of Registrar Chambers, of that department), may possibly prove of interest to those studying its occurrence and mortality among the human species.

As neither in 1860 nor in 1884 were any cases of rabies reported to the authorities, our labors are narrowed down to the consideration of a period of only twenty-three years, from 1861 to 1883 inclusive, during

which time sixty deaths from "hydrophobia" (?) are registered. These deaths occurred by years in the following order:

1861 . . 1 case.	1872 . . 1 case.
1862 . . 4 cases.	1873 . . 1 "
1863 . . 6 "	1874 . . 3 cases.
1864 . . 3 "	1875 . . 2 "
1865 . . 2 "	1876 . . 4 "
1866 . . 2 "	1877 . . 4 "
1867 . . 2 "	1878 . . 2 "
1868 . . 0 case.	1879 . . 3 "
1869 . . 7 cases.	1880 . . 1 case.
1870 . . 1 case.	1881 . . 5 cases.
1871 . . 1 "	1882 . . 2 "
	1883 . . 3 cases.

The smallest figure, 1, was recorded six times,—viz., in 1861 and 1880, and four times consecutively from 1870 to 1873; as to the higher figures, beginning at 7 for 1869, 6 for 1863, and 5 for 1881, then scaling downward with 4 deaths in three different years, 3 cases four times, and, finally, 2 cases six times, we are unable to observe any distinct periodicity in their occurrence, and hence may assume that the placid and unemotional temperament of our fellow-citizens has preserved them from the effects of panics taking place in other communities.

Next year's report of this year's mortality-statistics cannot fail to prove interesting, on account of the opportunity they will afford for special observation as to whether the recent scares in neighboring States have exerted any influence here.

As in nearly all deaths due directly or indirectly to traumatic causes, we find the male element largely predominating, fifty-two of our sixty deaths being males,—a fact easily explained by the reason that men, from the nature of their occupations, are more exposed to the bites of rabid animals, as for the same reason and on account of the amplexness of their dress the gentler sex run far less risk.* Of the fifty-two males, twenty-two are recorded as adults and thirty as minors, three of the eight female victims being adults and the remaining five minors,—the latter in each instance showing an excess over the former.

Considering the ages of these cases in detail:			
Period.	No. of Cases.	Period.	No. of Cases.
1 to 2 years.	1	20 to 30 years.	7
2 to 5 "	5	30 to 40 "	8
5 to 10 "	14	40 to 50 "	6
10 to 15 "	9	50 to 60 "	4
15 to 20 "	6		

* Vide "Rabies and Hydrophobia," by George Fleming, F.R.C.S., etc. London, 1872.

Our figures correspond with the results of other observers,* for, while no age up to sixty seems entirely exempt, nearly half the victims are children, the disease having taken place during what Bouley† rightly calls "the age of imprudence, weakness, play, and teasing."

A record of the nativity of the dead having been kept only since 1871, this feature is therefore incomplete; though, as might be expected in our community, eight foreigners are outnumbered by twenty-four Americans.

The records of the months in which these deaths occurred is equally disappointing, beginning as it does only in 1874, since which time but twenty-nine persons have succumbed to this disease. These cases massed in groups of months in their relative order of frequency give us the following result:

December, 5 cases.	January, 2 cases.
February, 4 "	April, 2 "
September, 4 "	July, 1 case.
October, 4 "	November, 1 "
March, 3 "	June, 0 "
May, 3 "	August, 0 "

Which again grouped by seasons:

December, 5 }	March, 3 }
January, 2 }	April, 2 }
February, 4 }	May, 3 }
June, 0 }	September, 4 }
July, 1 }	October, 4 }
August, 0 }	November, 1 }
11 cases.	
8 cases.	
9 cases.	

These figures may be too few to show conclusively that seasons or months influence to any marked degree the occurrence of rabies in Philadelphia.

It ought, however, to be stated that an analytical study of the Seventh, Eighth, and Ninth Census Reports of the United States‡ shows a different result. One hundred and twenty-seven deaths from rabies are reported from the whole country for the three census years. They occurred by seasons as follows:

Seasons.	1850.	1860.	1870.	Total.
Winter . .	9	9	13	31
Spring . .	8	5	13	26
Summer . .	6	15	20	41
Autumn . .	3	9	17	29
Total . .	26	38	63	127

* Vide Fleming, op. cit.

† Vide "Hydrophobia: Means of avoiding its Perils, etc.," by H. Bouley, of Paris, translated by Liautard. New York, 1874.

‡ The nosological classification of the Tenth Census does not specify "hydrophobia."

Grouped by months for the years 1860 and 1870 only, August heads the list with 18 cases, followed by June with 11; September, with 10; January, April, October, November, 8 each; December and February, 7 each; March and July, 6 apiece; May coming last, with 4 cases,—the greatest number of cases occurring in the summer.

Sixty-seven of the total number of cases were minors, and sixty were adults, their ages ranging from twenty to ninety years. Eighty-three were males and forty-four females; thirty-three of the former are known to have been minors, as were also twenty-four of the latter.

These one hundred and twenty-seven cases are about fairly distributed among the different States and Territories, save that in 1870 the large number of twenty-two cases occurred in Louisiana.

As we have seen from the foregoing figures, the disease seems never to have committed any great ravages in our city. Indeed, while from 1860 to 1884, a period of twenty-five years, the expectancy of it occurring among any ten thousand births was 1.8, the real mortality has been but 1.4 to every ten thousand deaths from all causes.

333 SOUTH TWELFTH STREET, February 9, 1886.

TRANSLATIONS.

ALCOHOLIC NEURITIS.—A communication by M. Gombault was read at the Académie des Sciences (February 22), in which the lesions of alcoholic neuritis were discussed. In addition to those nervous fibres presenting the characteristic signs of Wallerian degeneration (Ranvier), and which form the great mass of the altered fibres, a small number of others are found, at the level of which the lesion presents characters entirely different. On one hand, the myelin sheath, instead of being segmented and forming large drops, is finely emulsified. Most frequently the fine fatty particles thus produced are enveloped in large cells, which constitute the interior of the sheath of Schwann a large tube of granular cells. On the other, the axis-cylinder persists, whilst in the Wallerian degeneration it rapidly disappears. The writer had seen an analogous condition while investigating experimental neuritis due to lead-poisoning. The cases

of neuritis are presented in two distinct phases: in one of which a certain number of interannular segments are attacked in an isolated manner (segmentary neuritis), in each of which the axis-cylinder persists (periaxial neuritis), and, as a consequence of this persistence, the portions of fibres situated below the diseased points are not at all changed. This periaxial segmentary neuritis may terminate in two ways: either by the restoration of the affected parts and the formation of short and empty segments, or, the lesion progressing, by the destruction of the axis-cylinder at the level of the diseased segment, inducing the Wallerian degeneration below the divided point. Segmentary periaxial neuritis also explains the development of this degeneration, and constitutes a "pre-Wallerian" phase of neuritis. It is this phase "pre-Wallerian" which M. Gombault establishes as the present conception of alcoholic neuritis.

THE PROPHYLACTIC TREATMENT OF HYDROPHOBIA.—In a communication to the Académie de Médecine (March 2), M. Pasteur reported the results of the application of his method in order to prevent rabies after receiving the bite. Since last October, when he announced his method of curing hydrophobia, numbers of cases have been presented to him: up to the time of speaking, three hundred and fifty had been treated by inoculations. After analyzing the statistics of these cases, he turned his attention to the period of latency or incubation of hydrophobia, and showed that it was between the fiftieth and sixtieth day that the symptoms had usually manifested themselves. But among the various persons, differing in sex and in age, one hundred treated by the new method had been bitten before the 15th of December,—that is, more than two months and a half ago; the second hundred had more than six weeks or two months of interval without symptoms. Referring, in conclusion, to various prominent persons who had already died from hydrophobia, M. Pasteur concludes that the prophylaxis against hydrophobia has been discovered, and that there is a place for a new establishment for vaccinating against the rabies.

LACTIC ACID FOR EPITHELIOMA.—Von Mosetig-Moorhof recently presented a paper on the local therapeutic value of lactic acid before the Royal Society of Physi-

cians in Vienna, in which, after reaffirming the value of this agent in the treatment of laryngeal phthisis, he reports cases of lupus and of epithelioma showing marked beneficial results obtained by its use, both as a topical application (in concentrated form) and injected (diluted one-half) into the base of the growth.—*Wiener Med. Wochenschrift*.

EPILEPSY DUE TO EYE-LESION.—M. Galezowski reported a case in which epilepsy was apparently caused by the reflex irritation from the stump of an eye, which had been partially removed, after injury received during hunting, some six years before. The lecturer removed the remainder of the eye, and the epileptic attacks ceased. He referred also to a case in which a sympathetic optic neuritis set up in the other eye was cured by removal of a disorganized eyeball. The mechanism in each case was believed to be a transmission of the morbid process along the vascular walls, probably with the aid of the vaso-motor nerves, whence come endarteritis and thrombosis and their consequences.—*Rev. de Thér. Méd.-Chir.*

ERGOT FOR DYSENTERY.—In a case of a man, 44 years of age, suffering with acute dysentery, in which bismuth and laudanum had failed, Dr. Du Rocher gave calomel in large doses with no better results. He then resorted to powdered ergot, of which forty-five grains (3 gr.) were given in six doses through the night. The next day there were only two evacuations of the bowels, without a trace of blood. The ergot was continued, and twenty-four hours later the loose discharges were entirely suppressed and convalescence commenced. The reporter was very favorably impressed with the results from the remedy.—*Le Progrès Médical*, No. 10.

APONE.—A new compound, used externally either pure or diluted with oil, is recommended by V. Poulet as an anodyne revulsive. It consists of capsicum $\text{f}\overline{\text{3}}\text{vjss}$, aqua ammoniæ $\text{f}\overline{\text{3}}\text{ij}\frac{1}{4}$, spts. thymi and chloral aa 3ijss , and alcohol Oij. The capsicum is to be macerated for a month in the alcohol mixed with ammonia water; the tincture is then expressed and mixed with the other ingredients. It may also be given internally in doses of ten to twenty drops.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, APRIL 3, 1886.

EDITORIAL.

"TISSUE-REVERSION."

IN the leading article on another page, the theory is advanced that the blood of pernicious anæmia furnishes an instance of reversion to the type of blood found in the cold-blooded animals. The proofs adduced in favor of this view appear conclusive, and among them is a kind of evidence which cannot be controverted,—namely, the photographs of the blood-corpuscles in health and in the disease in question. Dr. Henry does not claim that the blood-corpuscles of pernicious anæmia are *precisely identical* with those of the cold-blooded animals. Were this the case, the peculiarities to which he calls attention would have been long since described. The blood-corpuscles of pernicious anæmia, for example, are not, as a rule, nucleated, although nucleated corpuscles have been observed in this affection; but with this exception, if it be one, they resemble the corpuscles of the cold-blooded animals in all their principal characteristics,—namely, in "their number, their size, their shape, and the amount of hæmoglobin they carry."

This interesting instance of "tissue-reversion" stands, we believe, alone, for, as claimed in the article referred to, the blood of pernicious anæmia is not a return to the type of blood found in the human embryo, but to that of an adult "ancestral form." We are acquainted with a sufficient number of instances of return to embryonic condition to warrant asking the question whether or not such return is to be invariably detected, either in the anatomical alterations of a diseased organ or in its functional manifestations. Atelectasis pulmonum is an

undoubted instance of such return, due to the relative action of a cause, want of air, which in the foetus is absolute. A condition of general atelectasis in the adult is inconceivable merely because there is no supplementary respiratory organ. The inflammatory state, wherever found, is a return to the earliest embryonic condition. This is acknowledged by the universal employment of the term "embryonic cells." If truly embryonic, one would naturally expect to be able to trace in them some tendency towards stratification such as takes place in the embryo. That there is no well-marked stratification of inflammatory products is evident. Such a mechanical arrangement could never have escaped the eye of even the most inattentive observer; but when the question is asked whether there is any subdivision of these cells based upon separate discharge of *function*, a reply cannot be given until some more thorough investigation of the subject has been made. Even on superficial investigation, a twofold functional division is seen in at least one instance. Thus, in the repair of the surface of the body, it is manifest that the external cells supply the new epithelium; the internal, the blood-vessels and connective tissue. The glands, however, are not reproduced.

That disease is a perversion either of structure or of function, or of both combined, is self-evident. If this perversion be retrograde,—and who may deny this?—it follows that the more careful investigation of disease and its manifestations may elicit numerous facts analogous to the instance of "tissue-reversion" which we have made the text of this article.

AN INTERESTING MEDICO-LEGAL QUESTION.

AFTER several delays, Monday next, April 5, has been set for the trial in a Philadelphia court of a case which deserves more than a passing notice, since its settlement will directly affect every

physician in this State who may be called upon to address an audience upon medical subjects.

The facts are, briefly, these. Dr. Carl Seiler, several months ago, before the Alumni Association of the College of Pharmacy of this city, and within the hall of the college, delivered a lecture upon "Hay-Fever." After he had explained the modern views of the neurotic nature of the disease, he stated the fact that it was often excited by pollen from various plants, as well as by particles of dust in the air, and he pointed out the fact that in the treatment all powders are therefore injurious, since they act as irritants to the inflamed mucous membrane. In impressing this point upon his audience, speaking extemporaneously, he condemned all powders for this reason, and told his audience not to use them. Among the examples which he mentioned was a proprietary article in the form of a snuff, which had been advertised in this city as a "cure" for hay-fever. The professional experience of the lecturer, and his knowledge of the nature of the disease in question, he believed, enabled him to form and qualified him to express a positive opinion as to the dangers of a remedy of the kind indicated when used in this highly objectionable manner.

For this statement, made before a medical audience (for pharmacy is a branch of medicine), Dr. Seiler has been prosecuted by the owner of the nostrum, who claims exemplary damages for injury to his business. If the case is decided in favor of the plaintiff in this case, medical men may consider it as an intimation that the patent-medicine business has grown so powerful that it may now issue its mandates directly to the profession, and that hereafter, if proprietary remedies are mentioned at all in our discussions, it shall only be in terms of commendation and with due respect. Our sympathies are with Dr. Seiler, who on this occasion is the champion of the profession on behalf of

free speech in medical societies, whose proceedings hitherto have been generally regarded as privileged. We repeat that this is a question in which every physician is more or less interested, and any who can do so should cheerfully render assistance to the defendant in his annoying situation. Judging merely upon the equity of the case, it would seem, however, a very proper one for a non-suit.

ADVERTISING DOCTORS.

SUCCESS in the medical profession is variously estimated when viewed from different stand-points. There are some who, thoroughly imbued with the dignity of their calling, are engaged in honest and consistent efforts to elevate it to what they consider to be its proper standing among the learned professions and in the estimation of the public. The success for which these strive is strictly a professional one, and a brilliant example of what may be attained in this direction was seen in the career of the distinguished American physician whose sudden death has so recently deeply moved the profession not of this country alone, but of Europe also.

In contrast with such are those who practise the transparent arts of the charlatan in order to attract public notice to themselves and acquire wealth and an unmerited prominence. The fact that the latter class, to speak moderately, does not enjoy the respect of the profession, beyond all question exerts a very wholesome effect in deterring some from indulging in unethical acts. The knowledge that the appearance in the public prints of reports of surgical operations or frequent interviews upon medical subjects will lead to the suspicion that they are published with the connivance of those whose names are thus displayed has often a discouraging effect upon the enterprise of reporters. Endorsements of wines, mineral waters, and instruments, when they appear in the daily

papers, are likewise in themselves a reflection upon the professional standing of those whose names voluntarily appear; and, as this sentiment is generally shared in professional circles in this city, we are glad to say that such an impropriety is of rare occurrence. During the past week, however, we have noticed an exception, which we hope will not be taken as a precedent. In this matter the older physicians should set the example for the younger, and not the reverse.

LEADING ARTICLE.

THE DIAGNOSIS OF PROGRESSIVE PERNICIOUS ANÆMIA, WITH PROOF THAT THE BLOOD IN THIS DISEASE IS AN INSTANCE OF REVERSION TO A LOWER TYPE.

BEFORE entering upon the proper subject-matter of this paper, I will say a few words concerning the nomenclature of this form of anæmia. Of late years the claims of Addison to its discovery have been successfully advanced by Dr. Pye-Smith and others in England and America, and the term "idiopathic" substituted for the terms "progressive pernicious," hitherto used to describe it.

Although I fully admit that Addison was the first to give a description of this affection, and have no wish to detract from the merit of his discovery, yet the fact remains that Addison's work in this field of research, when compared with that of more recent observers, was exceedingly meagre. He recognized clinically the existence of a fatal form of anæmia which he was unable to associate with any anatomical lesion. Is that, I inquire, a sufficient reason for the adoption of a term implying utter ignorance regarding the pathology of a disease which I venture to say is as clearly described and as thoroughly understood as, for example, diabetes mellitus? I protest against the introduction of the term "idiopathic" in this connection, if for no other reason than that it will cause confusion, and thereby tend to prevent the recognition of a rare disease. We all have a more or less well defined idea of what is meant by

progressive pernicious anæmia. The term is used all over the world, and the exceptional cases of recovery do not invalidate the fact that, as a rule, the affection is both progressive and pernicious.

The late Dr. Charles Hilton Fagge, in the introductory chapter of his posthumous work on the "Practice of Medicine," has an excellent section upon clinical and anatomical nosology, in the course of which occurs the following: "To say that a patient has 'hepatic ascites' is far more accurate than to speak of him as affected with 'cirrhosis of the liver,' if, after all, we are not certain that the lesion may not be peri-hepatitis, or cancer, or gummata. To define a cerebral case as one of 'hemiplegia' is much better than to call it 'softening of the brain,' if the lesion is really but little less likely to be a clot of effused blood, or a tumor, or an abscess." Dr. Fagge justly considered that the "phenomena which are commonly spoken of as symptoms are parts of the disease to which they belong, no less than the lesion or the specific cause or whatever else is taken as its main characteristic." In the light of such reasoning, it appears to me absurd to abandon a significant symptomatic term for one that has nothing to recommend it but its utter lack of meaning.

My remarks upon the diagnosis of this disease will be confined to a consideration of the data derived from a proper examination of the blood. I do not say that a diagnosis of this form of anæmia cannot be made without such examination, but merely that, after some years spent in its study, I would not pretend to do so. Facts derived from the history of the case are of great positive significance, and these, taken in connection with the negative result of physical examination and the "FACIES" of the patient, are almost conclusive. The latter is highly characteristic; so much so that in two cases under my care at the Episcopal Hospital in the spring of last year I predicted, the moment I saw them, that an examination of the blood would show them to be cases of pernicious anæmia. It is only proper to add that in a third case, a lad of extraordinary pallor, suffering from malarial cachexia, I made a similar prediction, and that it was not verified by the blood-examination.

The most interesting fact in connection

with the examination of the blood of pernicious anæmia, and one to which, so far as I know, attention has never been particularly directed, is that it demonstrates a reversion to the type of blood found in the lower animals. This might be justly regarded as a fanciful idea if it were based upon a resemblance of the blood of pernicious anæmia to that of the lower animals—birds, fishes, reptiles—in any one particular; but I propose to show that the red corpuscles in this disease APPROACH those of the lower animals in many, if not in all, of their chief characteristics: namely, in their number, their size, their shape, and the amount of hæmoglobin they carry.

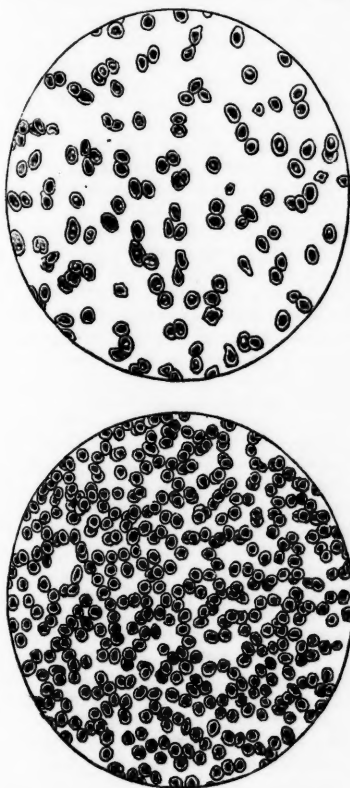
It is well known that the number of red corpuscles in a man of good health averages about 5,000,000 per cubic millimetre. Malassez found, in the blood of ten male Parisians, an average of 4,310,000. The amount of hæmoglobin in the same unit of measurement was 0.129 milligramme. The number of globules corresponding to one milligramme of hæmoglobin was, therefore, 33,400,000. In birds (chickens) living at liberty on a farm, he found an average of 2,500,000 corpuscles per cubic millimetre, and 0.123 milligramme hæmoglobin. One milligramme of hæmoglobin would, therefore, correspond to 20,682,000 corpuscles. In birds, therefore, the number of globules is reduced about one-half, while the quantity of hæmoglobin in a given amount of blood is not materially altered. In other words, each globule carries a much greater amount of hæmoglobin.

Without entering into the details of numerous examinations of the blood of reptiles and fishes made by Malassez, it will suffice to state in general terms that he found in the vertebrate series, in passing from birds to fishes, reptiles, and batrachians, a progressive diminution in the number of red corpuscles and an increase in the amount of hæmoglobin in a given amount of blood. The order in which these changes occur does not follow the usual division of the vertebrate series proceeding from above downward. Instead of birds, reptiles, fishes, the order in which these blood-changes take place is birds, fishes, reptiles. An interesting question is whether the increased quantity of hæmoglobin in a given amount of blood is due solely to the increased size of the red

corpuscles as we descend the scale of animal life, or whether the amount in each globule is also increased. Malassez has studied this question, with the following result. He found that the corpuscles of man and of the pigeon contain the same proportions of hæmoglobin, but that those of the frog and lizard are much poorer in coloring-matter, while in the globules of the proteus the deficiency reaches its maximum. A human red corpuscle expanded to the size of that of the proteus would contain but one-third of its normal proportion of hæmoglobin. This deficiency of hæmoglobin in the corpuscles of the lower animals was attributed by Welcker to the presence in them of a colorless nucleus; but Malassez considers this inadmissible, and points out that the corpuscles of the pigeon contain in an equal volume as much hæmoglobin as those of man, in spite of the presence of a nucleus: their globular substance is therefore richer in hæmoglobin. Again, the corpuscles of the proteus contain only one-third as much hæmoglobin as those of the lizard, and yet their nucleus is not three times larger. Of all animals, the proteus has the smallest number of corpuscles (250,000 per cubic millimetre); but these, owing to their enormous size, have the largest quantity of hæmoglobin.

Turning from these interesting facts of comparative physiology to their bearing upon the subject of this paper, we observe in well-marked cases of pernicious anæmia: 1. A reduction in the number of the red corpuscles to a degree that is normal in the cold-blooded animals. It is not at all uncommon to find in this disease less than 1,000,000 corpuscles per cubic millimetre. My lowest counts have been 525,000 five days before death; 560,000 in a case in which recovery took place; and 315,000 a few hours before death. In the celebrated case of Quincke there were but 143,000 per cubic millimetre, and yet the patient recovered. Figures like these are, as has just been said, normal in the cold-blooded animals. 2. In pernicious anæmia the proportion of hæmoglobin is often much greater than normal. It has been observed by Laache and others to be double the normal amount. This, in the opinion of the writer, is the most remarkable feature of this disease, distinguishing it from all other forms of anæmia, and is due to the fact that—3, many, sometimes

the majority, of the corpuscles are greatly increased in size. This is well seen in the accompanying cuts, from photo-micrographs of diseased and normal blood made for me by Mr. W. H. Walmsley, of this city. The photographs of the two specimens were made under precisely similar optical conditions. The patient furnishing the diseased specimen of blood is a typical case of pernicious anæmia, and is still under my observation. By apply-



ing the points of a pair of compasses to the enlarged corpuscles, it will be proved that many of them are at least double the normal size. 4. The corpuscles are not only increased in diameter, but altered in shape, and have a decided tendency to assume an oval outline. So much so that, in measuring them in the manner indicated, we have to take into consideration the direction in which the measurement is made. THEY HAVE A LONG AND A SHORT DIAMETER.

That the blood of pernicious anæmia

affords an instance of the law of reversion is thus indubitably proved. Numerous instances of the action of this law in disease may perhaps be found if sought for, but the writer can at present recall but one other, and that one does not apply to structural alterations, but to symptoms. The embryonic theory of tumors is not based upon the law of reversion, for in reversion the "adult organism possesses a character which is *never assumed by the normal embryo*, but which resembles an adult ANCESTRAL form to a degree which varies with the extent to which development has proceeded along the obsolete tract."*

The other instance of the law of reversion in disease to which I referred is that pointed out by Dr. J. Hughlings Jackson in the Croonian Lectures for 1884, on "Evolution and Dissolution of the Nervous System." This profound and original thinker has demonstrated that many diseases of the nervous system show "a reduction from the voluntary towards the automatic, in what the centre diseased represents." To quote from an editorial on these lectures in the *Medical Times and Gazette*, April 18, 1884: "It is, moreover, clearly shown that in many nervous disorders the symptoms are referable, on the one hand, to the modification or abeyance of the highest or most complex parts of the nervous system, and, on the other, to the activity of those parts immediately subordinate to them."

In other words, in some affections of nerve-centres the mode in which are performed the motor functions which they control is such as is habitual in some of the lower animals,—namely, automatic. This instance of reversion, interesting though it be, is, however, one of symptoms alone. I can, I repeat, at present recall no other instance than that recorded in this paper of genuine *tissue-reversion*. The field of science is so wide and the labors so many that I merely place my observation on record, without as yet claiming it as original. The most that one can hope to attain at the present day is to make new and varied application of facts which even he who runs may read.

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* "The Data of Alienism," by Charles Mercier, M.B. (London), *Journal of Mental Science*, April, 1883. The italics are my own.

NOTES FROM SPECIAL CORRESPONDENTS.

PARIS.

THE most remarkable thing on the *tapis* at present in Paris appears to be the studies of Professor A. Gautier, the eminent successor of Wurtz in the chair of Chemistry at the Paris Faculty of Medicine. He is taking up the physiological alkaloids produced by the animal tissues. These he calls leucomaines, as opposed to those yielded by the cadaver, which have become widely known as ptomaines. M. Gautier first studied the venom of serpents, from which he extracted alkaloids that produced various effects on animals, that were entirely different from those caused by the pure venom. Alkaloids of an analogous nature were extracted from saliva, blood, urine, and albumen; but it was particularly in muscles that these investigations have been made, in which Professor Gautier found xanthocreatinine and crucocreatinine. These alkaloids accumulate in the blood as soon as, from different reasons, the skin, kidneys, and the digestive tube cease to eliminate them. They then act on the nervous centres and give rise to a series of pathological symptoms which are the concomitant of various diseases. This incessant *auto-infection* is resisted by two different actions: one is the elimination of the poison, and the other is its destruction by oxygen.

Elimination by the kidneys is quite evident, and Professor Gautier had no trouble in finding a small proportion of them even in normal urine, which becomes very considerable as soon as there is any pathological state set up. Dr. Pouchet has observed this in cerebral maladies, and it is quite evident in typhoid. Their elimination by the digestive tube also seems to be certain, but here it is more complex in its nature, for it seems that a certain part of those found here are due to a bacterial fermentation of the aliments ingested, and which may pass inversely into the blood, as Professor Bouchard has asserted.

But a means that is much more powerful than the elimination of these bases is their incessant combustion by oxygen in the blood. The most of these poisons are in fact very oxidizable, and it is owing to this that the greater part of them disappear: so that in the normal state we find but a very small quantity of these leucomaines in the urine, because they have been burnt up in the circulating current, and after they are perhaps already in the tissues.

Let the slightest cause diminish the access of air to the blood, so that the quantity of hæmoglobin is diminished, as in any of the forms of chlorosis or anæmia, and at once there will be an accumulation of azotic

substances (nitrogen-compounds) of the nature of ptomaines or leucomaines.

On this point there has been, so far, very little investigation; but already this theory explains the nervous troubles in chlorosis, in pregnancy, and also, to some extent, the good effects of inhalation of oxygen, which is sometimes so successful in relieving the vomiting that occurs during the course of pregnancy, which shows that these symptoms are produced by a retention in the blood of some of the poisons that are not well eliminated or else not completely burnt. He asks, now, if it is not supposable that fever itself coincides with a minimum of food and an augmentation in the proportion of oxygen consumed and carbonic acid eliminated, while the circulation, being more rapid than usual, does not discharge the poisonous principles of waste as well as in the normal state.

Professor Peter, struck with the physiological and therapeutic deductions to be drawn from these facts studied by Professor Gautier, brought to the last meeting of the Academy of Medicine an interesting paper, which he calls "Microbes and Ptomaines." He said, "I bring to-day the support of traditional medicine to the medicine of the future. Professor Gautier has demonstrated the existence of toxic ptomaines in living animals, and also found toxic alkaloids in the body, with other principles that are as yet not well determined or defined. Clinical experience is quite in accord with Professor Gautier, and what he calls *auto-infection*. I have formerly called *auto-typhization*. The researches of M. Gautier give a terrible blow to the doctrine of the germ-theory. If the ptomaines result in truth during the evolution of normal life-action, it is quite sure that we do not need the microbian theory to explain the genesis of disease. Moreover, it should not astonish the practical doctor that these toxic substances develop themselves in the economy simply by the play of the vital forces. Do we not exhale every day carbonic acid, urea, etc.? What is urea? An alkali. If we manufacture an alkali, why should we not manufacture an alkaloid? The only difference is a degree of oxidation; the capital fact is that it is a vital phenomenon. These principles stated, permit me to support them by a few considerations.

"Life is a contingent phenomenon that is purely relative. We live only on condition that we renew ourselves, and consequently also destroy ourselves, without ceasing: so that we may say that we each carry a portion of a cadaver about with us, no matter what other name may be given to these products of disintegration, which are certainly the result of the activity of the nervous and muscular systems. Suppose, then, that this results in an insufficiency of elimination, even if the apparatus for that purpose be in good repair. What will happen? Why, what M. Gautier

calls *auto-infection*, and what I call *auto-typhization*. M. Gautier has completed for us the knowledge that we already possess of the phenomena of life. I would like to speak also of the other clinical problems that this matter calls up besides auto-typhization,—that is to say, poisoning one's self by one's self. There is also a *hetero-typhization*, or a poisoning of an individual by other individuals. Let me here speak of some facts that took place during the first years of my medical career.

"I was then a student under Chomel, when one day there came into the wards a young man who was in a state of great prostration, suffering with fever, muscular pains, etc. Chomel, after making an examination, said that he thought it was either a commencing varioloid or a typhoid fever. I was then ignorant, and was astonished at the great master hesitating at a diagnosis that was apparently so plain. Three days afterwards the man left the hospital cured! It turned out that he had come a long distance from the country on foot, sleeping out at night and eating almost nothing; in fact, he was suffering from what might be called overwork fever,—that is to say, a fever that resulted from the accumulation in his organism of the products of the disintegration in all the tissues. In a word, he was poisoned by the insufficiency of elimination. Let us suppose now that he had to travel a very much longer distance, say some five hundred miles; it would then be not a slight fever, but it would be typhus, the army fever when soldiers march rapidly, or the kind of fever seen in cattle-droves when they are driven great distances without rest or food. Typhus is, in fact, engendered by the accumulation of the extractive matters in the economy.

"So much for auto-typhization, notwithstanding that there is another element of which we must take account when it is an army on the march. This element is that, owing to the overcrowding, there is a respiration of an atmosphere that is charged with infection coming from the living body: this I call *hetero-typhization*. This method of understanding typhoid fever, as well as typhus, by overfatigue allows us to take into account the spontaneity of these diseases, which I believe in, and which does not prevent one from admitting that they may be also contagious through the miasms diffused in the air by those who are attacked with the disease, and, above all, through their faecal matter. So far we have only looked at the hypothesis of a non-elimination of a sufficient quantity of the products of disintegration of the tissues when the apparatus for that purpose is intact; but suppose now that they are not so,—that the kidney allows the blood-serum and also albumen to filter through. We then see a series of accidents that we call uræmia; and what I say of the kidneys applies as well to the production of bile and other excretions.

"I take up now the question of intoxication by the alkaloids. In Germany they describe by the name of *botulism* a poisoning of the organism that was observed after the ingestion of putrid meat. This showed itself, like cholera, by diarrhoea, vomiting, algidity, etc., which was evidently brought about by the ptomaines that existed in the bad sausage eaten. This has also been observed in France. We all remember the family that were poisoned by eating stuffed goose. At first a crime was thought of; but it was proved to have been caused by the presence of ptomaines that were found in the goose by M. Brouardel.

"It is the same thing in cholera, of which the cause is no longer the comma-bacilli, as Koch himself now admits. The important fact brought out by M. Gautier is that the animal alkaloids can be produced by the spontaneous acts of life. In 1881 he already announced 'that they appear constantly in excretions furnished by living, healthy animals, as well as in those who were ill.' Later he told us that four-fifths of our disassimilations were veritable internal combustions, comparable to the oxidation of alcohol under the influence of the *mycoderma aceti*.

"A few words more, and I have done. Two scientific commissions, inspired by the doctrine of microbes, went to Egypt to find the microbe that generated the cholera. They both failed. The head of one of them, Dr. Koch, thought, however, that he had found it in the comma-bacillus; but afterwards he said that it did not directly cause the cholera, but that it did it *indirectly* by the intervention of a ptomaine that it secreted. This would imply two suppositions: 1st, one of a ptomaine that he did not show; 2d, the secretion that the bacilli gave of a ptomaine, which implies a set of secreting organs to the bacillus! Did any one ever see such a strange accumulation of hypotheses?

"M. Gautier does not merely suppose—he shows that there is a spontaneous formation of leucomaines in the living organism. He shows the formation of these leucomaines by a doubling of the assimilators; he shows the accomplishment of the doubling by the vital action of living cells belonging to the organism, and not by microbes that are foreign to it. He shows also the toxicity of the leucomaines, and, after indicating the genesis of them, he describes their nature and shows them to us.

"Medical men cannot any longer hesitate between this clear and precise doctrine and that of the parasitic doctrine, which is full of cloudy hypothesis. M. Gautier is the first who has demonstrated that we live, at least in part, by putrefaction, and that a part of our tissue can live outside of the action and influence of oxygen. It is not denied that certain maladies are in fact caused by some sort of a germ, and the organism does not create,

for instance, the eruptive fevers, etc.; but gout, rheumatism, diabetes, hunger-fever, pneumonia, and a hundred other diseases seem to have their cause *in ourselves*."

This matter will no doubt cause a good deal of further discussion, and we shall have occasion to refer to it again, as it certainly is of great importance.

Hopeine.—Dr. Dujardin-Beaumetz complains that he has been taken in about hopeine, which had been furnished by American and English houses. In one word, it is a humbug, as on analysis it has been found to be simply morphine which had a slight odor of hops, and the only difference was that morphine sells here for ten cents a gramme, and the so-called hopeine was sold to the confiding doctor at eighty cents a gramme. So the doctor thinks that the interesting work of Williamson on hopeine is simply on morphine, and that he has been deceived by the bad merchants of London and New York.

Diagnosis of Rheumatism by Examination of the Blood.—Professor Hayem, who holds the chair of Therapeutics at the Paris school, has given some notes to the Société Médicale des Hôpitaux on this subject. He says, "For a long time I have been making examinations of the blood in different pyrexias, and every time the diagnosis seemed doubtful I have had recourse to this mode of investigation. Among the various results obtained, I would like to call your attention to this one. Since the works of Andral and Gaveret, it is known that articular rheumatism is accompanied by a considerable augmentation of fibrin in the blood, and in a certain number of patients I have been able to see this augmentation of fibrin even before there was any manifestation of local rheumatism: so that by the examination of the blood I could attribute to its proper origin the fever with which the patient was attacked, and I could diagnose in advance the appearance of articular phlegmasia; and in at least one case I think I was enabled to save the life of the patient.

"It was a young man 22 years of age, who had entered the hospital with all the usual characters of grave typhoid,—cerebral symptoms, an evening temperature of 41° C., etc. My interne thought it was a regular case of typhoid fever. As there were several other cases in a ward, he was put with them. On examination, no traces of a lesion could be found in any of his organs, and he had never had rheumatism. Before accepting a diagnosis, I proceeded to an examination of the blood,—when I saw a fibrous reticulum of a most decided character, analogous to that seen only in rheumatism or in pneumonia, so much so that I at once made the diagnosis of rheumatic fever with a determination to the cerebrum, and prescribed at once cold-

water treatment. Under the influence of this treatment he rapidly improved, and a few days afterwards an arthritis of the knee was noticed. This symptom was very tenacious, and, notwithstanding the administration of salicylate of soda, it did not terminate for several months, and then left the knee half ankylosed. I think that in this case the treatment prevented the formation of cerebral rheumatism and provoked the appearance of the articular form. So that it is possible to diagnose the rheumatic forms of disease by an examination of the blood, even in the absence of any local manifestation."

Memorial to Claude Bernard.—On Sunday last took place the inauguration of a bronze statue of Claude Bernard. It stands on a platform at the top of the steps leading to the entrance of the Collège de France from the Rue des Écoles. The artist has represented the great physiologist standing, with his head slightly inclined, in a meditative attitude, the left arm bent and the right hand on the chin. At his left side is a table, with the trough-shaped box, in which there is a dog, tied down and partly dissected. In front of the table hangs a scroll, on which are written the many discoveries of Bernard, and below it his name. Addresses were delivered by M. Paul Bert, M. Berthelot, and others, on the occasion.

Permanent Dilatation of the Neck of the Uterus.—This process has been put in practice by Dr. Vulliet, of Geneva, for the last year, and it is now adopted at the Maternity Hospital at Geneva. It allows the entire cavity to be seen and operated on daily; at the same time it has permitted Dr. Vulliet to study menstruation in all its phases, and to see in what manner the uterine hemorrhage takes place. He has also been able to take photographs, and even plaster casts, which he presented to the last meeting of the Geneva Medical Society.

To proceed to this dilatation. First put the woman in the genu-pectoral position, with the hips well raised, the peritoneum and posterior walls of the vagina to be then raised as high as possible with a Sims speculum. Then commence the dilatation by introducing, first, urethral sounds from small up to larger sizes, and those that will follow the uterine canal according to its resistance; afterwards put in little wads of cotton that are wet with iodoform, and augment the number of these gradually. These are left *in situ*, as a rule, forty-eight hours. Sometimes, to hurry the dilatation, M. Vulliet used laminaria, that he only left in twenty-four hours, and always followed them with tampons of the iodoform cotton to kill any germs that might have been introduced by the laminaria tents. In proceeding in a regular way, and slowly, one arrives at having a complete dilatation of the neck in about ten days, as a rule, but in some cases it took as much as five weeks, according to the patients.

M. Vulliet employed this method in cases of patients who were suffering with cancer of the uterus and those who were attacked with fibro myoma tumors, and when the neck was entirely dilated he was able to apply different substances on all the surface that was diseased, and it led to good results that could not have been accomplished in any other way; besides, according to Dr. Vulliet, it produced a hyperplastic action that acted very favorably on the uterine tissues. The patients were all improved so that the hemorrhages were stopped, and the fetid odors and loss were also arrested,—a result that is not to be despised. It is more than likely that this process will be put in practice in gynæcology in Europe, and it should be tried in America, where so much that is good in women's diseases has originated.

Differential Diagnosis of Sarcoma and Carcinoma in the Breast.—Not to neglect surgical subjects, let us give the above, which will be a résumé of a clinical lecture given last week at the Hôtel-Dieu by the eloquent Dr. Tillaux, who presents the points in a graphic manner. "We are going to operate to-day upon a woman, 56 years of age, who is afflicted with a tumor in the right breast. She presents almost no history: had a child at twenty-two, and her health had been good, when two years ago she noticed an enlargement of the breast. I think it dates farther back, but, in any case, it now presents the following characteristics. It is as large as the head of a baby; it is exactly circumscribed to the thorax, where it is attached as by a sort of pedicle; the surface is uneven, rough; the skin is red; the consistence is unequal,—it is hard in some places, soft in others; it is quite mobile, rolling on the pectoralis major. I will add that it is indolent, and there is no swelling of the glands in the axilla. It is, then, a real sarcoma, and, as there are some liquid parts in it, we will call it a cysto-sarcoma.

"Being able to show you both varieties,—sarcoma and carcinoma,—I take this occasion to make for you the differential diagnosis between them, as there is often a certain confusion made by those who have studied the old classification of Velpeau. Thanks to modern pathological histology, we can make the distinction aided by clinical facts.

"1. *March and Mode of Development.*—Sarcoma increases much more slowly, particularly at first. It may remain stationary for years; I once operated upon one that Nélaton had been consulted for some twenty-five years before; but when it does once take a start it will grow much faster than carcinoma, owing to the cystic cavities that develop in its interior.

"2. *Exterior Configuration.*—This takes in the form and volume. A confirmed sarcoma is unequal, lumpy on the surface. This is not the little unevenness you will notice in

carcinoma, but big lumps as large as a hen's egg, or larger. Then the entire mass in sarcoma is detached in the form of a pedicle, which is not so in carcinoma, as there it is, as it were, flat on the chest. Sarcoma will grow to twelve or fifteen pounds in weight, but you will never see a carcinoma of such a weight.

"3. *State of the Skin.*—In carcinoma the skin becomes rapidly attached to the deeper parts; in sarcoma the adherence is much later. In carcinoma this gives rise to a tractus that is seen leaving the tumor and going into the derma, and when the skin is pinched up it gives rise to the sign known as 'orange-skin.' In sarcoma the morbid product approaches the skin and makes it thinner and thinner, just like an abscess that wants to break, and the skin is distended; in carcinoma it is retracted, drawn in, giving rise to the appearance of a quilted cover. In sarcoma the integument is often marked with large veins; this is not seen in carcinoma, but you do see white lines, which Dr. Labbé says are lymphatic varices.

"4. *State of the Nipple.*—In carcinoma the nipple retracts, and the end of the nipple seems to be absorbed. This is not so in the usual form of sarcoma, where it is not modified, except that it may be stretched somewhat.

"5. *General Aspect.*—They both have a tendency to ulceration, but the process is quite different. In carcinoma the skin fuses with the tumor and is destroyed; in sarcoma it gives way only by pressure of the lumps on its internal surface that belong to the morbid tissue. From these facts you will see that the ulcerated surface is quite different: in the carcinoma the border of the ulceration is hard and continues with the tumor, but in sarcoma the border is thin and loose; it is about the same difference that exists between hard and soft chancre.

"6. *Consistence of the Tumor.*—In carcinoma it is hard, or at least firm, while in the other form it is much less so; but, above all, there are soft parts in the sarcoma, and even liquid parts from cysts inside.

"7. *Connection of the Tumor with the Mammary Gland.*—From the first, carcinoma fuses itself with it, while sarcoma will remain distinct from it, so that the gland is not destroyed, but simply flattened and atrophied.

"8. *Connection with Deep Parts.*—Carcinoma will adhere quickly to them, to the pectoralis muscle in particular, but the sarcoma remains apart from them.

"9. *Extension to the Lymphatic System.*—From the first the carcinoma will go to the glands, and the sarcoma hardly ever does so.

"10. *Return of the Tumor.*—Carcinoma will come back much more certainly than the sarcoma, and carcinoma will mostly return at a distance, while the sarcoma will come to the same place.

"11. *Influence on General Health.*—Carci-

noma destroys it quickly, and it is very remarkable to notice that a sarcoma may be operated upon several times while the general health of the patient will remain satisfactory.

"12. *Symptoms*.—Carcinoma is generally painful, and sarcoma indolent.

"13. *Rules for Operating*.—In sarcoma, even the smallest, take away a portion of the healthy part also. I used to content myself with simply extirpating them, but I now recognize that it is bad practice; it is not needed to sacrifice all the gland, but to pass well over the limits of the tumor. Again, it is possible, as you will see me do to-day, to measure beforehand a flap of the skin and cover the wound completely and get a reunion by first intention. This cannot be done in carcinoma, owing to the alteration of the skin itself."

In closing, let me give a formula that Dr. Guibout gives to stimulate the action of the digestive organs and increase appetite:

R Sulphate of strychnine, 0.02 gramme;
Syrup of mint, 30 grammes;
Distilled water, 150 grammes. M.
S.—Tablespoonful before meals.

THOMAS LINN, M.D.

PARIS, FRANCE, February, 1886.

BALTIMORE.

THE commencements have been held, and about two hundred and fifty new-made doctors have been added to the medical population of the country by the Baltimore medical schools. Of late years Baltimore has become somewhat of a medical centre, and several new schools have been started to compete with the two older institutions for the patronage of the students who come here for their medical education. The older schools hold their own pretty well, however, as is shown by their graduating classes, which numbered one hundred and forty-six in the College of Physicians and Surgeons and seventy-eight in the University of Maryland. The medical department of Johns Hopkins University is not yet a factor in the competition, although the influence of this great school is already manifesting itself in the greater attention bestowed in the medical schools to what may be termed the scientific branches of study,—namely, anatomy, physiology, chemistry, and pathology. Only a few years ago, didactic lectures and occasional recitations constituted the only means of instruction in chemistry and physiology, while pathology was scarcely thought of as coming properly within the curriculum. Now, practical laboratory instruction in chemistry, physiology, the use of the microscope, and urinary analysis is obligatory in at least one of the schools mentioned, and demonstrations of

gross and microscopic pathology are regular features in the course.

A case of Raynaud's disease was recently reported to one of the societies by Dr. A. B. Arnold. The patient had lost the last two phalanges of the index-finger and the terminal phalanx of the ring-finger of the right hand. On the left hand the terminal phalanx of the thumb was absent, and the same phalanx of the little finger was preparing to drop off. No pain attended the spontaneous amputation of the fingers. Nothing is positively known about the etiology or pathology of the affection. At first sight one is led to think of leprosy; but the other symptoms of that formidable disease are absent.

The question of the occurrence of cancer of the uterus in the negro was lately up for discussion in the Clinical Society. A case of cervical epithelioma was reported by Dr. R. M. Hall, who referred to the rarity of the disease in colored women. Some practitioners of large experience in the South have stated that they never saw a case. The discussion brought out the fact that cancer of the uterus was far from rare among colored women, although less frequent than among whites. I may say, however, that the degree of dilution of the negro blood in the individuals affected was not alluded to. In other words, no case was reported in which cancer was observed in women of pure negro blood.

Dr. Kierle pointed out the difference in the clinical history between carcinoma beginning in the glands and true epithelioma or surface-cancer. In the former there was usually much discharge of an offensive character, frequent hemorrhages, and much sloughing. In the flat or epithelial cancer, on the other hand, the infiltration is very superficial, the tissues are gradually eroded, there is little discharge, and the supposed characteristic offensive odor of cancer may be entirely wanting. Speaking as a pathologist, he would regard the prognosis in the latter form as much more favorable, and promising probable immunity against recurrence after extirpation.

Dr. Waters, a short time since, read a paper on "Endermic Medication" before the Clinical Society. Several old-fashioned remedies which have gone much out of use were considered. He spoke highly of the value of blisters applied to the inflamed skin in erysipelas until vesication results; then puncturing the bullæ and applying a cataplasm of bran and yeast. The effects are uniformly good. He also uses blisters with success early in the treatment of pneumonia, and thinks the reluctance on the part of many medical men to employ them in this disease is a mistake and much to be deplored.

Another old-time remedy which has fallen into undeserved desuetude is the lead-and-opium lotion. In superficial and deep inflammations or congestions it frequently gives

very prompt relief. In the erythematous hyperæmia of stumps after amputation, which not rarely becomes erysipelatous, the application of the lead-and-opium lotion speedily subdues the redness and tension.

In the treatment of the diseases of children where quinine is necessary, it is often inconvenient or impracticable to use this remedy, on account of its intense bitterness. In these cases Dr. Waters applies the quinine endermically, dissolving it in whiskey and rubbing it into the integument along the spine. He has used it in the same manner in adults, and with the most gratifying success.

At the Baltimore Medical and Surgical Society, on the 25th, Dr. Brinton reported a fatal case of chorea. The patient was a boy of twelve, who had rheumatism complicated with endocarditis and followed by chorea a year ago. He recovered from this attack under arsenic, but a month ago the boy was again seized with chorea, which proved fatal in a week. There was high temperature and incontinence of urine and feces for some days preceding death.

The annual report of the "Thomas Wilson Sanitarium for Children" has just been published. From this it appears that during the last season (from June 15 to September 18) 2960 mothers and 4234 children, most of the latter being sick with some form of summer-complaint, availed themselves of the benefit of this noble trust. The Sanitarium, as I have explained in a previous letter, is located on the Western Maryland Railroad, ten miles from the city. Tickets are furnished through the physicians attached to the dispensaries throughout the city, and are limited to children under five years of age and their mothers. Contagious diseases are not received. When children are seriously sick, they may remain with their mothers at the Sanitarium until improved or cured. One hundred and fourteen children and seventy-five mothers were thus fed, lodged, and treated at the Sanitarium last season. Three cases of follicular enteritis and two cases of gastro-enteric catarrh died. One of these had general tuberculosis, and one hæmophilia.

The physician in charge, Dr. W. D. Booker, speaks favorably of the effects of irrigating the bowels with warm water in both of the diseases mentioned. For the restlessness and sleeplessness which are so frequent in cases of gastro-enteric catarrh, he found bromide of sodium, either alone or combined with chloral hydrate, very useful. G. H. R.

PHENOL, CHLORAL, AND WATER.—A. Bouriez states that when phenol and chloral are mixed in such proportions that the quantity of the former does not exceed 1.7 parts for every 1 part of the latter, a liquid is formed which is soluble in water in all proportions.

PROCEEDINGS OF SOCIETIES.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held March 10, 1886, T. MITCHELL PRUDDEN, M.D., in the chair.

ABSENCE OF TESTICLE.

Dr. HODENPYL presented specimens removed from the body of a man aged 28 years, who died with the lesions of chronic phthisis. The other lesions were normal, except that there was marked phimosis, a very small penis, entire absence of the left testicle, and only a rudimentary right testicle of the size of a small almond. The right epididymis was small. The tunica vaginalis was present on both sides, as was also the spermatic cord, the cord on the right side terminating in the rudimentary testicle, while that on the left side grew smaller and gradually disappeared below the external ring. Microscopical examination showed all the elements of the cord.

RAPID RECOVERY FROM TENEMENT-HOUSE LAPAROTOMY.

Dr. H. J. BOLDT presented an ovarian cyst about the size of an orange, removed from a woman 41 years of age, the diagnosis having rested between hydrosalpinx and an ovarian cyst which had not yet risen above the pelvis. The patient got out of bed on the ninth day after the operation, although it had been performed in unfavorable surroundings. There was also complete recovery from previous symptoms. No adhesions were found, and it was worthy of remark that the earlier an operation was performed in these cases the less likely would there be adhesions. The dangers of tenement-house laparotomies were not so great, he thought, as to contra-indicate their performance when the patient was unable to pay for a bed in the hospital. He had lost only two cases out of eight within the past few months. He further remarked that there were some cases in which either produced danger from uncontrollable vomiting, and here he considered it advisable to substitute chloroform.

ENLARGEMENT OF THE PROSTATE, CYSTITIS, AND PYELONEPHROSIS.

Dr. ROBERT NEWMAN presented the specimens, and said the chief point of interest was that they illustrated the fact that cystitis was less frequently the cause of death than we might suppose; that, as in this case, disease of the kidneys was what killed the patient.

SUBPERITONEAL FIBROID.

Dr. H. MARION SIMS presented a small specimen removed from a woman 24 years of age, who had suffered a number of years with

the pain and symptoms accompanying a subperitoneal fibroid. Her sufferings became so great that laparotomy was performed for the purpose of removing the ovaries, when the small subperitoneal fibroid situated in the folds of the broad ligament was discovered and removed. The uterine fibroid had increased the size of the womb fourfold.

NEUROMATA OF THE ABDOMINAL PARIETES.

Dr. SIMS also presented a number of little tumors about the size of a bean, which he had removed from the anterior wall of the abdomen, from just beneath the integument, in the case of a young lady who gave the following history. She was quite healthy until her marriage at the age of seventeen. On returning from her wedding-tour she had become a nervous wreck. An operation for the relief of vaginismus was performed, after which pain disappeared during three or four months. She then became pregnant, and during the second month of pregnancy pain developed in the region of the left ovary and increased in severity, terminating in repeated hystero-epileptic attacks. Her symptoms became worse, instead of better, after delivery, and both ovaries were then removed, and were found to have undergone cystic and inflammatory change, the left ovary being three times its normal size and containing four or five cysts; the right ovary had undergone similar, but less marked, change. The patient was able to sit up at the end of three weeks, and for the first time was free from pain and convulsions. But, about two weeks later, she began to complain of pain at certain small spots over the abdomen. Dr. Sims found, on careful examination, little bodies about the size of a pea situated just beneath the integument. These were removed under the influence of cocaine, and all pain ceased. Some days later, however, the pain returned, and other nodules were found and removed, followed by complete relief. She had had no pain since the last operation. Incomplete examination of the specimens pointed to neuromata.

PERTUSSIS, PNEUMONIA, ENLARGEMENT OF THE MEDIASTINAL GLANDS, CAUSING PARALYSIS OF THE RECURRENT LARYNGEAL NERVE BY PRESSURE.

Dr. PUTNAM JACOBI presented the lungs of a child which died aged 2½ years. The child was said to have had pertussis about eight weeks before it was brought to the dispensary, and about three weeks previously it became unable to walk, apparently from weakness and not from paralysis. The physical examination pointed to atelectasis of the upper portion of the lung rather than of the lower lobe, as more commonly occurred in pneumonia; and another interesting feature, in the light of the autopsy, was the absence of fever. The child became unable to speak or

cough above a whisper. Careful examination was made to discover enlargement of the glands in the neck and chest; but no physical evidences of such enlargement were recognizable, although a certain lividity of the lips led to a suspicion of its existence. The child improved for a short time under treatment, and then died suddenly. The autopsy showed pneumonia, with a large amount of pus in the left lung. The lymphatic glands in the chest were enlarged. One of these glands, lying between the aorta and trachea, had apparently produced paralysis of the left recurrent laryngeal nerve by pressure, which would account for the aphonia. The cause of sudden death, she thought, was a minute coagulum entwined about the cardiac valves, but not entirely occluding the orifices.

PERITYPHLITIS.

Dr. J. J. REID presented a specimen removed from a woman who entered the hospital complaining of pain in the iliac region. A swelling was found in the gluteal region, and a hypodermic needle was introduced, but no pus was withdrawn. Dr. Reid next saw the patient two or three days later, when the tumor had pointed near the crest of the ilium and pus escaped. Peritonitis developed, and the autopsy showed that there had been perityphlitis, with two perforations of the cæcum. A quince-seed was found in the vermiform appendix. The interest in the case centred in the fact that, as was shown at the autopsy, had an incision been made sufficiently early at the crest of the ilium, the finger might have been passed down to the cæcum.

SEPTICÆMIA FOLLOWING THE INTRODUCTION OF A URETHRAL BOUGIE.

Dr. R. VAN SANTVOORD presented specimens removed from the body of a man aged 73 years, who was admitted to Randall's Island Hospital December 2, 1885, suffering from a deep urethral stricture of small size. The house-physician passed a urethral bougie, which was followed by a chill, pains in the back, loins, etc., but there was no fever until after the second day. There then developed fever, vomiting, headache, diminution of urine (which continued to contain albumen), stiffness of the neck, pains in the joints, a soft systolic murmur over the apex (not transmitted), subcrepitant râles over both pulmonary lobes. The patient died on the eighth day after the introduction of the bougie, having had the last two days of his illness the symptoms of cerebro-spinal meningitis. The autopsy showed slight atrophy of the brain, slight atheroma of the basilar vessels, slight surface-œdema, some hemorrhagic spots. The lungs were œdematous and congested; the left pleural cavity contained two ounces of clear fluid; the posterior border of the right lung was bound down.

The heart was normal in size; the aortic and mitral valves showed patches of recent fibrin, that on the aortic extending down a little distance on the endocardium; there was some hemorrhage into the endocardium, showing that the process was an acute one. The spleen and kidneys showed infarctions. The pelvis of the kidneys and the ureters were not affected. There was a marked hardening of the urethral canal at the membranous junction. The joints which were opened revealed no visible lesion.

The points of interest in the case were, first, that the introduction of the urethral bougie seemed to have given rise to the septic process, although it was introduced by a careful house-physician; second, that the process skipped the ureter and passed up to the body of the kidney; third, that two or three days elapsed before the beginning of the continued fever, which then lasted six days; fourth, the symptoms during the last two days of life were those of cerebro-spinal meningitis. The cardiac lesions had no apparent connection with the murmur heard during life.

He asked Dr. Prudden whether he had seen the septic inflammation skip the ureter and pass up to the kidneys.

Dr. PRUDDEN replied that he had in six or seven cases.

Dr. PRUDDEN then presented a specimen of

CARCINOMA OF THE CERVIX UTERI,

involving the walls of the bladder, causing complete occlusion of one and partial occlusion of the other ureter by pressure, ending on one side in pyelonephrosis, and on the other in pyelonephritis.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held March 18, 1886, the President, A. JACOBI, M.D., in the chair.

THE TREATMENT OF DIABETES.

Dr. F. A. BURRALL read a brief paper on this subject, which he divided into three heads,—namely, the dietetic, the hygienic, and the medicinal management of diabetes. Under the dietetic management he referred to the diet-tables prepared by different authorities, as Pepper, Flint, and others. Some recent writers had added to the list water-melon and buckwheat-cakes. He had employed glycerin in one case, giving two ounces alternate days, and the result was that during its administration the sugar in the urine was increased, and when discontinued the sugar was diminished. Some articles were absolutely injurious, others were harmless, but no absolute diet-list could be laid down, and the patient's food should never be so restricted as to produce mal-assimilation and starvation.

It was not necessary to dwell upon the

hygienic treatment, and regarding the medicinal treatment there was a long list of drugs which had been employed, and they were difficult of classification. Nervines and anti-fermentatives occupied a prominent place. Dr. Burrall had not tried medicines without regulating the diet at the same time, and he was unable to say positively what benefit had been derived from medicinal treatment in the cases under his own observation.

Dr. CAULDWELL read the histories of four cases of diabetes, and referred to two others, in which he had employed the new so-called specific and accepted East Indian diabetic cure, jambol. Four of the cases were well-marked chronic diabetes. Of the six cases, in four marked benefit followed the use of the drug, but this benefit was undoubtedly due in a large measure to diet and improved surroundings. In the other two cases no effect followed. In one case the drug caused palpitation and fulness in the head, and in one healthy person it apparently produced an urticaria. It was given in five-grain doses four times a day to two healthy adults, and the urine was not affected in any way.

Dr. W. H. DRAPER also read a brief paper on the same subject, and said that, excluding the dietetic treatment of diabetes, it might truly be said that our treatment of this disease was as purely empirical as was our knowledge of its pathology speculative. No tests of drugs alone, without the more or less complete exclusion of saccharine and starchy foods, had been made in the treatment of this disease. His experience led him more and more towards the conviction that dietetic and hygienic means were, after all, the essential factors in the successful management of the disease. Perhaps the larger portion of the cases reported were of the benign form, being apparently due only to a want of power to assimilate the sugars and starches. But it was the grave cases, those which he had observed to occur usually in persons who had received some serious nervous shock, or in whom there were evidences of tissue-degeneration, which were the ones to test the efficacy of remedies. But, unhappily, they had thus far remained uncured, though they were often ameliorated by drugs. The drugs which he was most accustomed to rely upon were opium (usually in the form of codeia), sulphide of calcium, and the alkaline carbonates. Opium he considered a great boon, and in mild cases, with regulated diet, it would probably cure the disease. He had found sulphide of calcium a useful adjunct in the treatment, with regulated diet. Alkaline carbonates had been, in his hands, very useful in some cases.

DISCUSSION.

Dr. T. A. MCBRIDE opened the discussion, and said his attention had been directed specially to this subject since 1884, when Professor Segan, of Vienna, described his method for de-

tecting a small quantity of sugar in the urine. He employed blood-charcoal as a filter, afterwards washing it out with distilled water, and the second or third washings would be found to contain sugar on using Fehling's test. This method revealed much smaller quantities of sugar than Fehling's test alone,—the amount varying from a trace, or one-tenth per cent., up to two and a half per cent., but usually the latter amount was revealed by the unaided Fehling test. Dr. McBride said sugar was found in the urine in apparently healthy persons, also in various affections, especially of general nervousness, neurasthenia, etc. Indeed, it was difficult to say where diabetes began and where it ended, for very small quantities of sugar in the urine were sometimes accompanied by the definite symptoms of undoubted diabetes.

Dr. F. P. KINNICUTT said that many years ago Lauder Brunton had called attention to the fact that sometimes the precipitation of the oxide of copper by Fehling's test fails to take place, although sugar may be present in large quantities. This peculiarity has been found most frequently in urine presenting a purplish hue on the addition of cold nitric acid. Such urine might yield the red oxide of copper precipitate if diluted, and it would probably result also from the blood-charcoal test described by Dr. McBride.

Dr. R. M. PAGE said there were three conditions in which sugar might appear in the urine. The first was, as had been shown by Dr. Fowler, after eating an excess of saccharine food. In the other two the sugar was present more or less continuously,—in the one instance being of large quantity, in the other of small quantity, but in both being the result of diabetes mellitus. The cases in which there was a break in the presence of sugar were much more favorable than the others. Niemeyer had stated that three cases of diabetes occurred in men to one in women, and usually from thirty to forty years of age; but Dr. Page had found it more often in women, and usually after the fiftieth year. With regard to treatment, he had no faith in drugs.

Dr. GEORGE B. FOWLER, in 1877, accidentally discovered that an excess of saccharine food, especially on an empty stomach, was followed by sugar in the urine, and he had repeatedly observed this fact in healthy persons since that time.

Dr. W. H. DRAPER had ceased to attach very much importance to the occasional presence of a very small quantity of sugar in the urine, for the reason which had been well stated by Dr. Fowler. He found it very often in that condition of the urine which obtained in the lithæmic state,—that is to say, in that variety of dyspepsia in which we found in the urine the evidence of suboxidation; and the treatment which would cause the disappearance of the urates and crystalline sediments of uric acid would also cause the disappearance

of the small quantity of sugar. He thought, with Dr. McBride, that it was difficult to say where diabetes begins. We find small quantities of sugar in the urine frequently, and in persons who may be suffering from the same symptoms which are present in those who pass urine containing a larger quantity of sugar. Therefore a mild form of diabetes seems to be nothing more than a form of indigestion.

Dr. DEVLIN called attention to the statement which had been made that nitrous-oxide gas inhalation was sometimes followed by the presence of sugar in the urine.

Dr. E. DARWIN HUDSON, JR., said that chloroform-inhalation and ether-inhalation are sometimes attended by sugar in the urine, and he could easily believe that nitrous-oxide gas might produce the same result. Whooping-cough, the convulsions of childhood, and spasmodic asthma are sometimes followed by sugar in the urine, due probably to some impression upon the nervous centres related to the glycogenic function.

The PRESIDENT said he would make a statement which it was probable all present could confirm,—namely, that sugar in the urine to the amount of being revealed by the ordinary Fehling test was sometimes not of much significance. He had known persons in fair health to have sugar in the urine at times through a period of ten or twelve years. As a rule, such persons were beyond the middle age. Cases of diabetes with urine of a specific gravity of 1.035 down to 1.017 were not infrequent. These were not always mild cases, and they often led on to phthisis. A number of such patients were gouty, and when in good health their urine might contain no sugar for weeks, but during a gouty attack or a state of poor health sugar would be present to the extent perhaps of producing pruritus pudendi. Such patients when they had an acute disease were in great danger, particularly if it were a pulmonary disease. As a rule, such patients did not live through an attack of pneumonia. Such a case was that of a physician, 42 years of age, who had no sugar in the urine for six years. During the first of his illness with pneumonia he was doing fairly well; then he became thirsty, and examination of his urine at his bedside revealed sugar, when he said, "Now I will go," and he went. Dr. Jacobi spoke of a family of four brothers, all of whom had sugar in the urine, but those who obeyed the physician's instructions had only a trace, and remained in good health. One of those who refused to be so guided was now affected with phthisis.

Dr. DADIRRIAN had employed matzoon, or fermented milk, with advantage in the treatment of diabetes, and also in a great many other affections.

Dr. DAWBARN said that in a personal interview with Dr. Husted that gentleman said he had yet had practically no failure with the

sulphide of calcium in the treatment of diabetes, but it was necessary to continue it a long time, and Merck's was the only preparation which he had found effective.

Dr. WEIR had within a short time seen three cases of gangrene in diabetes. In one he removed the gangrenous fingers, in the other the patient died before demarcation formed, and in the third he refused to amputate because the middle portion of the lower extremity was affected, and the limited statistics of such cases showed a fearful mortality after amputation. It might be said, in connection with the President's remarks, that this patient had recovered from an attack of pneumonia, but the gangrene of the thigh occurred afterwards and resulted fatally.

Dr. SIMON BARUCH attached importance to exercise in diabetes.

Dr. DRAPER thought forced exercise was very capable of abuse, and should be very guardedly advised in the severer forms of diabetes.

Dr. KINNICUTT knew of a recent amputation for gangrene of the thigh in a diabetic patient which resulted fatally. In three other cases, he thought physical fatigue had been the cause of diabetic coma.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, MARCH 22, 1886.

The President, DANIEL LEWIS, M.D., in the chair.

THE RELATIONS BETWEEN DISEASES OF THE SKIN AND DISORDERS OF OTHER ORGANS.

DR. L. D. BULKLEY in his paper said that, although comparatively little was to be found in literature regarding this subject, the close observer must have noticed cases of skin-disease existing at a time when there was disorder of other organs, and in which the relationship between the two conditions was that of cause and effect, or cases in which the diseases must have had the same cause. In illustration of his subject he read the letter of a young lady who graphically described her sufferings, which letter first suggested to him the idea of writing a paper on this subject.

The lecturer considered the relation between skin-disease and disorders of other organs under six heads: 1, the relation of skin-disease to digestive disorders; 2, to nervous disorders; 3, to circulatory disorders; 4, to sexual disorders; 5, to general conditions, as anæmia and debility; 6, to special conditions, as malaria, gout, and rheumatism.

A most striking relation was observed to exist between digestive disorders and urticaria. Such relationship was also manifest in acne, eczema, and likewise in syphilis, in

which specific treatment sometimes fails until after improvement of the digestive system.

The relation between nervous disorders and diseases of the skin was observable in a variety of affections. The value of arsenic in skin-diseases is probably largely attributable to its influence upon the nervous system. Skin-lesions of most diverse forms have been observed to follow nervous exhaustion, nervous shock, lesions of the nerves, etc.

Functional disturbances of the circulation are frequently connected with disease of the skin, especially in acne, also in hemorrhoids, purpura, etc.

The relation between disorders of the sexual organs and diseases of the skin was observable in herpes gestationis, pruritus confined to the genitals during pregnancy, chloasma, acne rosacea, and skin-lesions following disordered menstruation and masturbation.

That there is a relation between the general conditions of anæmia and debility and skin-diseases is plain to every one, and we often find that local treatment fails to relieve the skin-disease, which, however, disappears at once upon improvement of the general condition.

Coming to the relation of special conditions to skin-diseases, Dr. Bulkley said that while it could scarcely be claimed that malaria is the direct cause of any single skin-disease, yet its indirect relationship seems evident, and may naturally be inferred from the influence of this poison upon the liver. He had seen cases of eczema in which the eruption appeared at certain periods, and which were cured by the administration of quinine. In many instances eczema is found to alternate with gouty symptoms. He had seen an association between rheumatism and erythema papulatum.

DISCUSSION.

Dr. CHARLES HEITZMAN, being invited to open the discussion, said that there were no important points in which he differed from the author. A few years ago, however, Dr. Bulkley had read a paper in which he claimed a causative relation between disease of the kidneys and liver and certain skin-diseases, as eczema about the genitals, and Dr. Heitzman strongly opposed those views. The nature of the subject of this evening was altogether different. While he had been educated in the Vienna school years ago, he still recognized the fact that there certainly were many disorders of the skin dependent upon internal disease. He thought Dr. Bulkley was quite correct when he said parasitic disease of the skin, as favus, was entirely a local affection.

Dr. JACKSON thought that, while many skin-diseases were due solely to a local cause, there were also many cases in which they were plainly attributable to disorders of other organs. He instanced eczema and acne rosacea.

Dr. J. L. CORNING thought the discussion taught us to lay hold of the positive indications as far as we could, and where we could not do so to take hold of the collateral, and by ameliorating general symptoms hope to better the skin-disease.

Dr. ALLEN was not one of those who believed that a parasitic disease was constitutional, but he differed from Dr. Heitzman in that he believed a suitable soil, arising from a low condition of the general health, was necessary before the parasite would take hold; for example he cited favus. He did not think it always necessary to look to disorder of an internal organ for a cause of the skin-disease. He had cured an eczema of the upper lip after treating a nasal catarrh when remedies previously used had failed. In pruritus of the genital organs we should examine the urine for sugar.

Dr. ALEXANDER HADDEN had seen two or three cases in which urticaria was dependent upon malaria, the skin-eruption disappearing with the chill. He also had four or five cases of eczema of the vulva dependent upon diabetes, eczema disappearing with the diminution or disappearance of sugar in the urine. Urticaria was often dependent upon some intestinal disturbance, and was usually relieved in his practice by a mercurial cathartic.

Dr. BULKLEY, in closing, said he believed a parasitic skin-affection would not take root in many persons in the audience. In other words, a person in perfect health would not have favus. This being the case, he expected to get the best result from the treatment of this disease by the administration of internal remedies, or remedies for the improvement of the general health. Dr. Allen had called attention to an important fact,—namely, the relation between eczema of the upper lip and nasal catarrh, and between pruritus of the vulva and sugar in the urine. Dr. Bulkley had treated of the subject, as it was a very large one, merely in a general way, and for the purpose of calling general attention to it.

THE INJURIOUS EFFECTS OF HIGH TEMPERATURE ON THE PUBLIC HEALTH OF THE CITY, AND THE MEASURES FOR THEIR PREVENTION.

Dr. STEPHEN SMITH read a portion of a paper in which he considered especially the beneficial influence of trees and vegetation and of rain (or washing the streets) and cleanliness upon the health during the summer months. Statistics show that not far from three to five thousand persons die annually in New York from agencies engendered by the heat of the summer. The injurious influences of heat are particularly noticeable in diarrhoeal diseases, in zymotic diseases, and in debilitated subjects. There are especial conditions in New York favoring an increased temperature over the neighboring districts during the summer months, such as the very dense popu-

lation, the masses of brick and stone in the buildings and streets (the height of buildings preventing free circulation of the air), the absence of vegetation, the presence of gases in the atmosphere, and the southern exposure.

The means for reducing to a minimum the injurious effects of hot weather upon the health were the planting of trees in the streets, the flushing of the streets and gutters daily, and also the establishing of baths in the centre of the city in addition to those along the river-front.

Dr. Smith urged the necessity for some legislation providing for the planting and protection of trees in the streets and avenues of the city, and read a proposed bill, drawn up with the aid of a lawyer, empowering the Park Department to expend a sum not exceeding twenty thousand dollars annually in planting such trees as would grow and were best suited to meet the indications.

The proposed method for flushing the streets was by salt water from the river, which would result not only in cooling off the atmosphere and rendering it refreshing, as after a rain-storm, but also in cleansing the streets. Indeed, it was the only method by which the streets could be properly cleansed. This department would be placed under the control of the Fire Department, who would have a more efficient method of stopping conflagrations, and would at the same time replace the scavengers of the streets by flushing the streets night and morning with salt water. The entire cost of establishing this system had been estimated by competent engineers at four millions of dollars. Here, doubtless, as in Liverpool, the use of the water by business establishments would in a few years pay off the first sum invested, and leave a permanent income to the city.

Dr. JOHN C. PETERS favored the proposed legislation, but he doubted whether sufficient room could be found in the streets for the growth of large trees. Many of the streets were not sufficiently wide for a row of trees in the middle, and the ground under the sidewalks was commonly excavated for coal-cellars.

Dr. W. M. CARPENTER said that in Paris they flushed the streets daily during the period when cholera was feared, and the result was to cleanse the streets and to render the atmosphere very fresh, as after a summer shower. The contrast between the cleanliness of the streets and the freshness of the atmosphere as he had found it during his stay in Paris and as it existed in New York was very great, and certainly did not speak in favor of that of New York.

Dr. L. D. BULKLEY confirmed the statements of Dr. Carpenter.

On motion, the Society approved of action being taken by the Committee on Hygiene to have the State Legislature pass a bill or bills providing for the planting of trees in our

streets, and for flushing the streets and public places of the city with salt water.

The PRESIDENT announced the death of Drs. Gaspar Griswold, Austin Flint, and S. O. Van der Poel, of whom memorials would be read at a future meeting.

REVIEWS AND BOOK NOTICES.

A TREATISE ON AMPUTATIONS OF THE EXTREMITIES AND THEIR COMPLICATIONS. By B. A. WATSON, A.M., M.D., Surgeon to the Jersey City Hospital, to St. Francis and to Christ Church Hospital. Pp. 750.

This very valuable and extensive work necessarily considers many of the questions of surgery. The first chapter is mainly devoted to the history of amputations, and, like the rest of the volume, bears on every page the evidences of close study and exhaustive research. It is so pleasantly written, and contains so much unfamiliar surgical history, that we found ourselves spending much more time in its perusal than we had proposed.

In the control of hemorrhage in amputation of the thigh, of which the author gives an interesting *résumé* of methods and their histories, he neglects to mention that the first to suggest and publish the practicability of controlling the circulation through the rectum by direct compression of the iliac vessels was Dr. Frank Woodbury, of Philadelphia, who published his suggestion in the *American Journal of the Medical Sciences* in 1872.

We consulted with much interest the article headed "Conditions Requiring Amputation," and, though we find it much fuller and more complete than most similar articles in most of the text-books, it is still unsatisfactory.

We well remember the difficulty we experienced when first called to treat serious compound fracture. Was it a proper case for amputation or not? None of the books give a young surgeon the information he seeks. Perhaps the most satisfactory way would be for a writer to cite the exact injury or injuries in a series of cases in which amputation had been performed, and a series which recovered without amputation.

We notice in the same chapter a valuable suggestion of Dr. Watson,—that, in cases in which the surgeon is doubtful if amputation is demanded or not (and, we would add, those in which the patient and friends at first forbid amputation), the injured limb be dressed with strict antiseptic precautions, which, if successful, very much modify or entirely prevent that stage known as the intermediate, so that if amputation be at last decided upon there need be no delay in waiting for the secondary period, but the operation can be performed at once.

It is almost unnecessary to state that Dr.

Watson consistently employs antiseptic precautions in his operations.

He devotes many pages to the "Germ Theory," and describes, mostly by quotations, various methods of dressing wounds, including Lister's method of using carbolic acid, O'Halloran's open method, Guérin's cotton-dressing, the earth-treatment, etc. But we fail to find the method the author himself prefers, nor do we find any mention of the use of corrosive sublimate, the antiseptic probably the most generally used at present.

Indeed, we think, if there be a fault in this magnificent work, it is that the author quotes too much, and leaves himself too much in the background. The doctor has had a large experience, and the result of it would be very valuable to the profession. We hope in the next edition to have more of the author himself.

J. M. B.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE EAR. By OREN D. POMEROY, M.D. With One Hundred Illustrations. Second Edition, revised, with Additions. New York, D. Appleton & Co., 1886. 8vo, cloth, pp. 413.

The scope of the present work is the pathology, diagnosis, and treatment of diseases of the ear, in a form easy of reference to the general practitioner and the young aural surgeon. It is clear, plain, and positive in its teachings, and is a safe guide in practice. Diseases of the naso-pharynx and other disorders affecting the hearing receive due consideration.

NEW REMEDIES AND CLINICAL NOTES.

TUBERCULAR MENINGITIS CURED BY IODOFORM.—A Swedish physician, Dr. Emil Nilsson, alleges that he has cured an undoubted case of tubercular meningitis by frictions on the shaved scalp with iodoform ointment (one to ten). The patient was a boy, aged 8, whose mother had a family history of phthisis, and four of whose brothers and sisters had died from tubercular meningitis. The symptoms in this child's case were similar to theirs,—headache, torpor, convulsions, strabismus, and pyrexia. He was at first treated with calomel and iodide of potassium, but did not improve, and after having been under treatment for a week became distinctly worse, being unable to take food or medicine. The pallor of the face which had pre-existed gave way to flushes of the cheeks. The child threw himself out of bed, and presented several clonic spasms of the limbs and of the facial muscles. The head was then shaved, and iodoform ointment rubbed in, an oil-skin cap being put on. The friction was repeated

three or four times in the day, and the next day there was a decrease in the convulsive movements, the sleep was calmer, and the spasmodic contractions which had previously been excited by the slightest noise now ceased to be so. Consciousness shortly afterwards returned, and the child's face became of a more natural color. This, however, was accompanied with a severe coryza, redness of the lips, and an irritable cough, the breath smelling strongly of iodoform. The ointment was discontinued, and syrup of iodide of iron given. The unpleasant symptoms rapidly disappeared, and the child was soon running about in good health.—*Therapeutic Gazette*, January, 1886.

THE TREATMENT OF GONORRHOEA BY IODOFORM.—Dr. Alexander V. Khrül, of Irkutsk, recommends (Proceedings of the Eastern Siberian (Irkutsk) Medical Society, 1885, p. 34) the treatment of gonorrhœa after the method of Dr. Watson Cheyne (described in the *British Medical Journal*, 1881), somewhat modified, which he has successfully practised about two years. An ointment made of one part of iodoform and ten parts of vaseline is somewhat liquefied by heating and then aspirated (by suction) into a fine elastic catheter, the latter being anointed externally with the same mixture and introduced into the urethra to the depth desired. The ointment is blown out of the catheter by the operator's or patient's mouth, applied to the free end of the instrument. The advantages claimed for this plan by the author, on the ground of seventeen cases, are as follows:

1. It enables even deeper parts of the urethra to be subjected to the direct action of the iodoform.
2. While covering the urethral walls, the ointment gives them sufficient protection against any irritating influence of the urine.
3. The method enables us to get rid of internal administration of balsamic drugs, which are injurious, being apt to produce renal pain, albuminuria, and nephritis.
4. On the other hand, it enables one also to get rid of the treatment by watery injections, which do not allow any prolonged contact of the medicaments with the diseased mucous membrane.
5. The ointment produces a strikingly rapid narcotic and disinfectant action, the painful phenomena of the acute stage disappearing within twenty-four hours.

The method is especially indicated in persons with irritable urethra and kidneys. The single drawback is the necessity of aspirating and insufflating the ointment by the mouth, which procedure may appear rather unattractive even to not over-fastidious people. However, it might be replaced by the use of an india-rubber contrivance.—*London Medical Record*.

EXCESSIVE VOMITING OF PREGNANCY IN-

STANTLY RELIEVED BY ETHER-IRRIGATIONS UPON THE EPIGASTRIUM (Mendel, *Archiv de Tocol.*, September, 1885).—A young woman, primipara, of feeble constitution, had frequent vomiting since the second month of pregnancy. At the fifth month the vomiting became more persistent, and was accompanied in the intervals with nausea, fainting, and general malaise. In a few hours the attacks became so frequent that they succeeded without interruption, producing syncope, absolute prostration of power, noises in the ears, chills, cold and profuse sweats, frequent and filiform pulse. Her life was manifestly in danger. Means the most varied to arrest this vomiting had been employed without result. In their turn antispasmodics had been used (ether, valerian, musk), then opiates, choral, carbonated and iced drinks, iodine (internally and externally), blisters upon the epigastrium, hypodermic injection of morphine, ether, etc. Ultimately irrigation of ether upon the epigastrium was tried. The effect was instantaneous. A single irrigation sufficed to cut short the vomiting. The patient drew a few long breaths, said she was cured, and felt perfectly well. Later the vomiting returned twice, and each time the ether-irrigations arrested all trouble.—*Edinburgh Medical Journal*.

OXYGEN-INHALATION IN ECLAMPSIA.—In the *Russkaia Meditz.*, No. 32, 1885, p. 595, Dr. Schmidt, of St. Petersburg, records a case of severe eclampsia occurring in a relative of his after a twin-labor, where he successfully used oxygen-inhalations. When first seen, the patient was found in a deeply unconscious and nearly asphyctic state: to prevent the convulsive attack, she had been constantly kept under the influence of chloroform by two medical attendants. It was the asphyctic state which suggested to the author to try oxygen-inhalation without any delay, and in spite of some reluctance shown by his colleagues. After a few inhalations the patient gradually recovered her consciousness, though she could not at first speak, on account of her tongue being swollen in consequence of bites during the paroxysms. Shortly afterwards she took some tea, and was understood to complain of pain in the tongue and of general weakness. The patient made a slow but complete recovery. About one cubic foot of the gas was used. The case came under the author's observation several years before the publication of Lashkevitch's paper on oxygen-therapeutics.—*London Medical Record*.

WHEN TO TIE THE UMBILICAL CORD (Engel, *Centbl. für Gynäk.*, No. 46, 1885).—The writer strongly recommends that the cord should not be tied till all pulsation in it has ceased, and in the course of his paper mentions the following facts as evidence of the importance to the child of the small quantity of blood thus saved to it. He contrasts

the mortality of all the premature children born in the Klausenburg Hospital during the last eight years, during the first four of which it was the custom to ligature the cord immediately on the birth of the child, while during the latter four the plan of treatment he advises was practised. During the first period there were ninety premature undersized and underweighted children born, of whom seventeen, or 18.88 per cent., died within ten days of birth, while during the latter period there were seventy-four such births, of whom ten, or 13.51 per cent., died within the same time. In cases where the mother became feverish, a wet-nurse was had recourse to. "This striking difference of mortality can only—in the absence of any other visible cause—be attributed to late ligature of the cord."

ANTIPYRIN IN ARTICULAR RHEUMATISM.—Masins in a recent communication publishes the results he has obtained from administering antipyrin in fevers (*Bull. Acad. de Méd. Bel.*, 1885, p. 25, and *L'Union Méd.*, December 17, 1885). He has found its action to be quick, certain, powerful, and sustained, of great value in high temperature. In acute, subacute, and articular rheumatism, not accompanied with fever, he has observed that from three to five grammes, given in doses of one to two grammes with a few hours' interval, have reduced the temperature to the normal standard, and lowered the pulse, and produced a considerable improvement in the articular symptoms; sometimes modification of the local condition precedes the lowering of the temperature. In order to prevent relapse, antipyrin should be administered for eight days after the patient appears to be cured.—*London Medical Record.*

HYPODERMIC QUININE SOLUTION.—Professor S. S. Burt says, in the *Quart. Bulletin Clin. Society*, that he has found the following a satisfactory solution of quinine for hypodermic use:

Quinine bisulphate, gr. lx;
Boric acid, gr. ij;
Morphine sulphate, gr. $\frac{1}{4}$;
Distilled water, $\mathfrak{z}\text{j}$. M.

S.—For use subcutaneously. One drachm represents seven and a half grains of quinine.—*Druggists Circular.*

GONORRHOEA TREATED BY KAVA.—An article contributed by Dr. Robert to *La France Médicale* describes the discovery of the efficiency of kava (*Piper methysticum*), by Dupuy in 1874, in the treatment of a number of cases of sailors suffering with gonorrhoea. The root is the portion of the plant used in medicine, of which a fluid extract or an infusion may be employed.

CARSON'S PAINT.—Croton oil, two drachms; ether, four drachms; comp. tinct. iodine, ten drachms. Applied with camel's-hair brush, to produce mild pustular eruption.

MISCELLANY.

THE POLYCLINIC HOSPITAL.—The Philadelphia Polyclinic and College for Graduates in Medicine enters upon its fourth year of work by establishing in its new building at Broad and Lombard Streets a hospital department, where cases of a character too serious for dispensary management can be treated. A number of patients have already been operated on in the wards of the Polyclinic Hospital, which adds another institution to the list of those in which the poor classes can receive skilled professional care. The new location of the Polyclinic is a fine one for both pupils and patients.

The building is situated on a corner, which circumstance permits the college to have separate entrances for dispensary-patients and for those coming to visit paying patients in private rooms or wards; and to have the whole building well lighted by a large number of windows. The two lower floors are occupied by the dispensary-rooms, drug-store, dean's room, pupils' reading-room, etc.; the two upper stories, by wards, private rooms, kitchen, dining-room, and attendants' quarters.

The practical teaching to physicians given by the faculty in the special departments of medicine and surgery has been found very acceptable to both recent and older graduates of the medical colleges of the country. Pupils have come from all sections, because the instruction in this, as in other polyclinic schools, is distinctively personal. The members of the faculty have connections with nearly every hospital in Philadelphia, and are therefore enabled to show many unusual cases to those who desire to avail themselves of the opportunity. Recently several additions have been made to the teaching corps, in order that the classes might receive the advantage of hearing the opinions and profiting by the experience of various hospital physicians and surgeons. The growth of the Polyclinic, despite the opposition with which its inception was met, proves the wisdom of its founders and the necessity for its existence.

BRAIN-TUMORS AND BRAIN-SURGERY.—There are evidences in some quarters of a reaction from the very favorable conclusions as to the applicability of physiological theories of cortical function in the diagnosis and localization of brain-tumors, and the consequent resort to the trephine for their removal, which were freely expressed when Mr. Godlee's case was first reported in the journals.

An interesting discussion was held recently at the London Pathological Society, when fifty cerebral tumors were exhibited by the members. The *British Medical Journal* states that one generalization which can be drawn from the exhibit may be summarized

as follows: "A tumor may occur in any region of the brain; that the region within which symptoms permitting localization occur is very limited; and that, therefore, surgery can do nothing for a large proportion of the patients who suffer from such tumors."

CERATUM PLUMBI SUBACETATIS.—The following formula for the preparation of Goulard's cerate is said to yield a more satisfactory and stable preparation than that made in accordance with the official directions:

Crystallized subacetate of lead, 5 parts;
Glycerin, 20 parts;
Camphor-liniment, 5 parts;
Simple cerate, 70 parts.

Dissolve the salt in the glycerin with the aid of heat; allow to cool, and thoroughly incorporate with the cerate.—James Kennedy, in *Pharmaceutical Record*, New York, February 15, 1886.

ASSOCIATION OF AMERICAN MEDICAL EDITORS.—The next annual meeting of the Association of American Medical Editors will be held at St. Louis on Monday evening, May 3. It has been proposed by the editor of the *American Lancet* that the addresses of the evening shall be preceded by a subscription dinner. If the Committee of Arrangements, of which Dr. Legrand Atwood, of St. Louis, is chairman, conclude to accept the suggestion, and will make the necessary preparation, we feel assured that the attendance upon the meeting will be much increased, and the pleasure of those present very greatly enhanced.

IODINE-COLLODION CAUSES GANGRENE.—The application of iodine-collodion to a frost-bitten finger in Vienna last year, it will be remembered, led to a loss of the finger and the suicide of the physician from mortification on account of the unfortunate notoriety given the case. Dr. Vogelsang, of Biel, now reports (*Memorabilia, Med.-Chir. Rundschau*) a case in which iodine-collodion painted over a large surface was followed by gangrene of the skin and sloughing. In one case collodion was applied over a gland which had been painted with iodine: the result was a slough and an ugly ulcer.

COLDEN'S LIQUID BEEF TONIC has been before the profession for a score of years, and has met with much success. Its composition is given as follows: saccharine matter, 20 per cent.; meat-juice, 25 per cent.; spirits and water, with bitter extractives from cinchona and other barks, 55 per cent. Each tablespoonful also contains two grains of soluble citrate of iron.

MEDICAL LEGISLATION.—The *Maryland Medical Journal* announces that the proposed Medical Bill for that State, based upon those of Illinois and West Virginia, will prob-

ably not pass the Legislature, since the Medical and Chirurgical Faculty of Maryland has reconsidered its endorsement and withdrawn its approval, on account of the homœopathic element on the proposed board.

THE ALUMNI ASSOCIATION OF THE JEFFERSON MEDICAL COLLEGE held its annual meeting in the lecture-room of the college, April 1. Dr. W. H. Warder, of Philadelphia, delivered an address entitled "The Lights and Shadows of Medicine and Professional Life." The meeting was followed by a reception at the Hotel Bellevue.

THE SOCIETY OF THE ALUMNI OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF PENNSYLVANIA held its annual meeting March 26, in the chapel of the University. The address was delivered by Dr. Charles Gilman Smith, of Chicago. A reception to the orator followed the business session.

NOTES AND QUERIES.

OBITUARY.

JOHN K. KANE, M.D., one of the leading practitioners of Delaware, died recently while on a visit to a sick daughter at Summit, New Jersey. He was born in Philadelphia, December 18, 1833, and studied medicine at the Jefferson Medical College, which graduated him in 1854. He afterwards pursued his studies in the medical schools and hospitals of Paris, and on his return to this country entered upon practice in Wilmington, Delaware, where he occupied a prominent position in the profession and in social circles. He was the son of Judge Kane, of this city, and a brother of General Thomas L. Kane and of Elisha Kent Kane, M.D., the Arctic explorer. Dr. J. K. Kane accompanied the expedition, as one of the surgeons, which went north to the relief of his brother in 1856.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM MARCH 14, 1886, TO MARCH 27, 1886.

CAPTAIN JNO. VAN R. HOFF, ASSISTANT-SURGEON.—Ordered from the Department of California to the Department of Missouri. S. O. 60, A. G. O., March 13, 1886.

ASSISTANT-SURGEON JOHN J. COCHRAN.—Ordered for duty as post-surgeon, Fort Mason, California.

ASSISTANT-SURGEON A. S. POLHEMUS.—Ordered for duty at Presidio of San Francisco, California. S. O. 18, Department of California, March 13, 1886.

LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FROM MARCH 14, 1886, TO MARCH 27, 1886.

H. M. MARTIN, SURGEON.—Detached from the "Independence" and ordered to the "St. Louis."

D. M. GUTIERAS, PASSED ASSISTANT-SURGEON.—Detached from Navy-Yard, Pensacola, and wait orders.

J. W. ROSS, SURGEON.—Detached from special duty, New York, and ordered to Pensacola.

H. C. ECKSTEIN, SURGEON.—Detached from the "St. Louis" and placed on sick-leave.

V. C. B. MEANS, ASSISTANT-SURGEON.—Detached from the "Vermont" and ordered to the "Shenandoah."

N. H. BEAUMONT, SURGEON.—Detached from the "Enterprise," and wait orders.